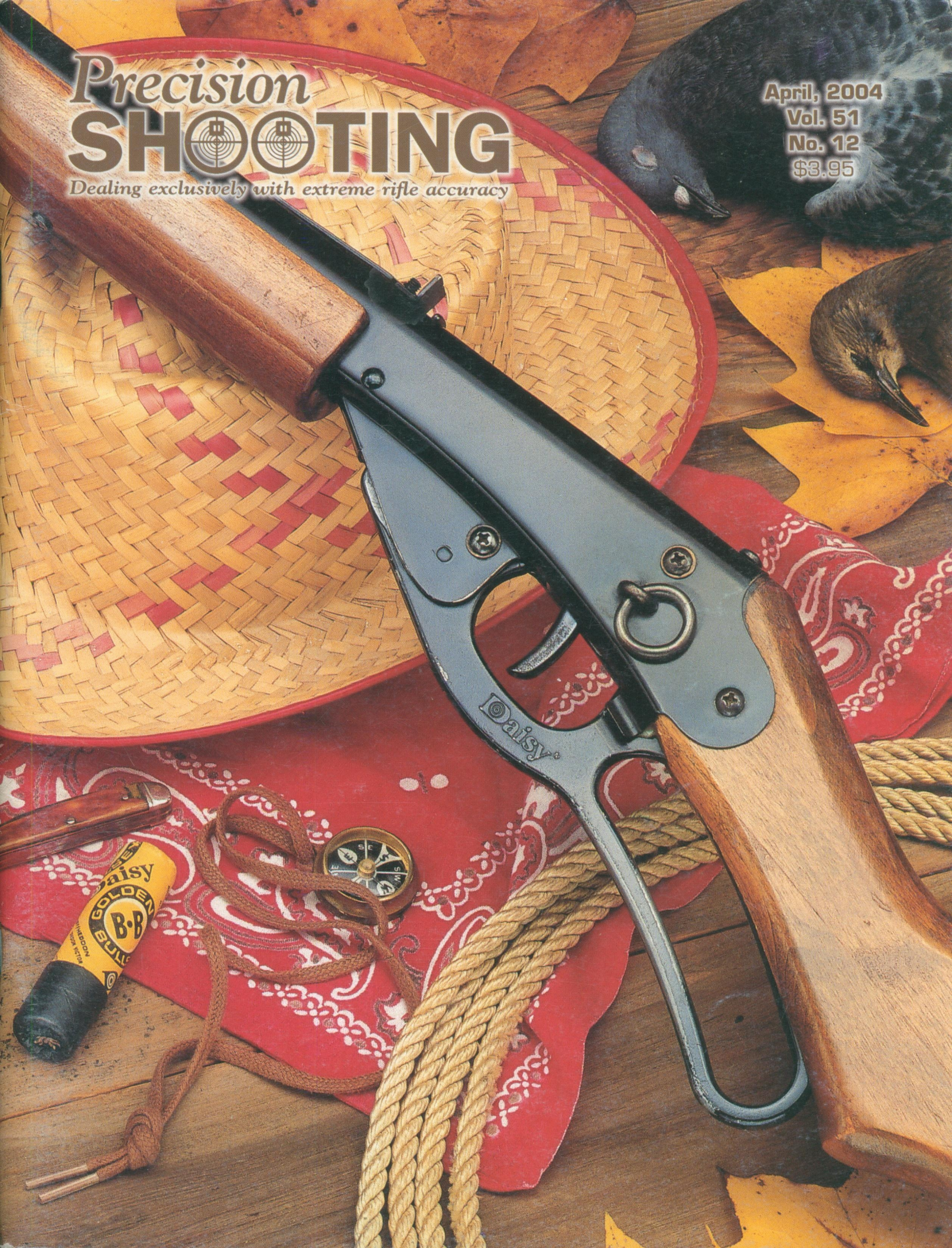
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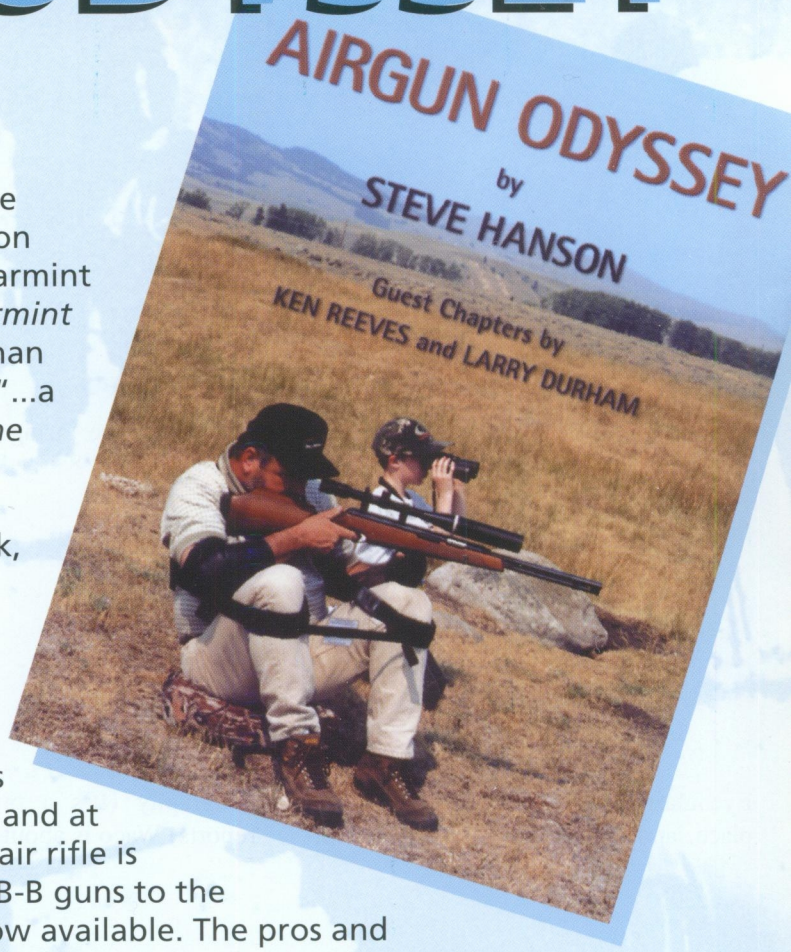
By
Steve Hanson



Steve Hanson's first book was greeted with wide acceptance from the time of its initial publication back in November, 1999. "...a standard in the varmint hunting field for many years to come." said *Varmint Hunter* magazine. "...you need go no further than this book." reflected American Survival Guide. "...a most informative volume..." in the review of *The New GUN WEEK*.

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EDITORIAL

Markets can remain irrational longer than you can remain solvent.

John Maynard Keynes, economist

Left the Range: Harold Broughton...

Harold Broughton, celebrated gunsmith, barrel-maker and philosopher, died at Big Spring, Texas on February 1, 2004. Texans, to the rest of the United States citizenry, have long had a bigger-than-life persona, fitting for an area that they make movies about entitled *Giant,* and where Santa Anna's battle plan for capturing the Alamo called for his Army to surround the place, but leave all sorts of escape routes open each night. Anyone would of course expect the garrison to promptly vacate the premises on the first or second night, leaving Santa Anna the Glorious Victor...all without a lot of noisy gunfire and general unpleasantness. So much for that theory...nobody budged an inch. Short of putting up road signs reading "This way out!" Mr. Anna must have wondered just what he had to do to get rid of these stubborn fellows. Eventually he was forced to storm the place, and proved his own dark suspicions that this just might be a hard way to earn a living.

Some Texans work at this being larger-than-life thing, and others don't have to work at it at all. We're certain that Harold Broughton never even thought once about it, let alone work at it. He's gone now and we won't see his like again for a long time.

We thought that his friend, Kenny Jarrett's writeup on him (in the September '03 issue) would probably be the last time that he would appear in our pages. But Jacob Gottfredson is working on putting Harold's words in just about a full day's interview with him, shortly before his death, into what will probably be a multi-part article in some upcoming issues.

Long Range Firing School...

There's two pretty solid reasons why long range firing schools are always in short supply. First, there's not a lot of 1000 yard ranges to be found these days. (Connecticut points with pride to its 200 yard range when the "long range" talk starts.) And second, there's not that many experienced coaches for such a school. "Long range", in the Highpower world, means 800-900-1000 yards, by the way.

John Gaines, of Texas (see remarks above) tells us that the Bald Eagles Club will be conducting a two day Long Distance Firing School in Waco, Texas on May 8th and 9th. There are a number of very experienced coaches who are committed to assisting in the instruction that weekend; some of them with ties to *Precision Shooting* (It's hard to imagine anyone that could be more stubborn than a Texan with ties to **PS**...the Alamo was likely filled with just such individuals.)

For those a little weak on Texas geography (It's a big place, by all reports) Waco is about an hour south of Dallas, and the range (at the Dillon Shooting Facility) is about 15 miles east of Waco.)

Since the time for the School is rapidly coming up, and since the good Mr. Gaines waited too long to get a big, sexy ad into the April issue, the fellow has done what our writers always do under such circumstances...namely go looking for the Editor with a "You gotta help me!" line. The more that things change, the more that they remain the same.

Contact information: John Gaines, 122 Hidden Haven Drive, Boerne, TX 78006. Phone (830) 249-2095. They have a nice flyer with all relevant facts about the School that they will be happy to send you upon request.

Letter to the Editor, #1...

Dear Dave,

I want to respond to John Buchanan and John Riley's very thorough article on pressure measurement in the November **PS**. The article does a great job of explaining, from a physical perspective, why different people get apparently different results from their ballistic testing. While I'm iced in here in SW Virginia this morning I would like to add a few comments to the article.

I've always thought of pressure as a dynamic, directionally sensitive phenomenon whether it was wind blowing on my face, blowing a bullet off course, or pushing my canoe all over the river. As an engineer, we started our mechanics of material studies with some simplifying assumptions until we had the math to handle the tensor algebra and calculus to more accurately describe what was happening physically, but the concept of pressures having non-equilibrium directionality was always there. The definition of a force acting over an area did not imply, at least in my mind, a hydrostatic condition.

I feel that the authors should have included the Piezo electric gage as another common way to measure pressure. Within the SAAMI ballistic community, this is currently the most popular way of measuring chamber pressure. It shares many of the advantages of the resistance strain gage (yes, that's how the industry spells gauge); fast, accurate, dynamic, electronic data capture. With this system of measurement, a hole is drilled in the barrel and a gage conforming to the outside surface of the test cartridge is mounted. With most small caliber setups, the pressure is measured thru the cartridge case so a calibration offset must be applied to correct to the chamber pressure, similar to the crusher method. In some instances, usually to meet

Continued on page 5

PRECISION SHOOTING STAFF

CHAOS-IN-GENERAL

DAVE BRENNAN - Editor

222 MCKEE STREET
MANCHESTER, CT 06040
PHONE (860) 645-8776
FAX (860) 643-8215

ORDER-IN-CHAOS

KIM WOBLE - Advertising Mgr. & Office Mgr.

222 MCKEE STREET
MANCHESTER, CT 06040
PHONE (860) 645-8776
FAX (860) 643-8215

PRECISION SHOOTING COLUMNISTS

R.W. BALLOU
P.O. BOX 30
W. DUMMERSTON, VT 05357

FRED BARKER
14155 WEST 21ST PLACE
GOLDEN, CO 80401

ROY BAUMGARDNER
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330-773-8104

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17055-5642

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Precision SHOOTING®

PUBLISHED MONTHLY BY PRECISION SHOOTING, INC.

EDITORIAL/BUSINESS OFFICE

Editor - Dave Brennan
Advertising Mgr. & Office Mgr. - Kim Woble
222 McKee Street, Manchester, CT 06040
Tel. (860) 645-8776 • Fax (860) 643-8215
www.precisionshooting.com

President - Dr. Richard Maretzo
Vice-President - Jim Borden
Secretary - Allie Euber

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Precision Shooting (USPS 441840) (ISSN 0048-5144) is published monthly by Precision Shooting, Inc. Rates: U.S. (except CT) $37.00 one year, $70.00 two years. CT residents: $39.22 one year, $74.20 two years. Europe - $70.00; Australia; New Zealand - $92.00; Canada - $62.00; Mexico, S. America, Japan - $75.00; S. Africa, Israel - $90.00.

POSTMASTER: Send all address changes to: Precision Shooting, Inc., 222 McKee Street, Manchester, Connecticut 06040.

PLACE OF PUBLICATION: Sweet Waverly Printing Company, Brownstone Industrial Park, P.O. Box 72, Portland, CT 06480-0072. Periodicals postage paid at Manchester, CT and at additional offices.

BACK ISSUES are available from Manchester, CT office. A back-issue availability list will be provided at no charge; call or write.

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Editorial

Continued from page 3

military specifications, the pressure is taken at the cartridge mouth or the cartridge case itself is drilled under the gage so that the pressure attenuation due to case to case variation is not a factor. In some large bore systems multiple pressures are recorded: pressures at the base of the propellant bed, midway up the charge, at the base of the projectile, and at various positions along the barrel. This allows for very accurate modeling of interior ballistic performance especially when combined with inbore velocity measurements available from Doppler radar.

The Piezo gage method has two major advantages over resistance strain gage systems; the frequency response is faster allowing better recording of the ignition transient and you don't need to impute pressure from the barrel strains. Most of the propellant and ammunition manufacturers use the Piezo method which has been standardized by SAAMI and published by ASTM, although some calibers still retain the crusher method. Most of the currently published data in the reloading guides are Piezo data and the same admonitions the authors apply to the comparison of strain gage and copper crusher data apply to the comparison with Piezo data. Unless you are comparing pressure values obtained by measurement under the same measurement system, under the same conditions, the numbers are just numbers, and if there is agreement it is just a random occurrence as the variations in the physical methods of obtaining a number involving different assumptions, simplification and errors. There is no correlation between any of the five commonly used pressure measurement systems. Even within SAMI compliant laboratories there are discrepancies. Lest we get too parochial, lets not forget that our European brothers and sisters have another systems of ballistic measurement standardized by CIP.

We talk of chamber pressure as if it were one value, however it is not. Even if the whole propellant charge were to ignite at once, the pressure within the chamber will be higher at the primer end and lower at the base of the bullet (ignoring standing wave phenomena, usually a safe assumption in small arms ammunition) due to the Bernoulli Effect. It is the pressure on the base of the bullet that does the useful work of getting the bullet down the bore and down range. Figure 3 in the article is really the key to understanding how this happens; velocity is proportional to the integral of the pressure-time history. That's just a fancy way of saying the area of the pressure-time trace is what gives us velocity. Although actual traces look more like Figure 3A, propellant manufacturers are always trying to tailor their products to widen the curve i.e. look more like Figure 3B in order to get the maximum velocity at the lowest pressure.

The elastic-plastic behavior of metals is also important to understand to get an appreciation of what's going on with the crusher gage and case deformation methods of determining safe loads. It is also good to remember that case deformation, sticky bolt lift, hard extraction and loose primer pocket are sure signs that the pressures are too high even in our new strong bolt actions. Catastrophic disassembly can be imminent long before pressures are high enough drive cartridge brass into the plastic region in older or more weakly designed actions. Two minor points while I'm on the topic of mechanical properties. I'm used to seeing the strain presented as the abscissa and the stress as the ordinate as produced by a tensile testing machine. And, usually we speak of the property of material strength and stress as being the material condition resulting from an applied load. Table 1 would then list the yield strengths of the representative materials. Comparing the stress state to the material strength with some theory of failure will allow us to determine a factor of safety.

I thoroughly enjoyed this article and feel it has added to the general understanding of what we mean by "chamber pressure". I am looking forward to the authors' article on the Interior Ballistic Problem.

Sincerely,
RR Daniels
Radford, VA

Letter to the Editor, #2...

Dear Dave,

I have received questions about the instrumentation required to enable one to conduct a service of measuring slugs, or casts, sent by shooters to enable them to select optimum diameter bullets for their particular shooting needs.

The samples one receives are imprinted with the lands and grooves from bores with varying numbers of lands and grooves, and their variations require the use of micrometers of the "vee anvil" type where the lands and groove are in uneven numbers. Those from bores having three lands and grooves require the use of a 60° vee anvil micrometer, those from bores having five lands and grooves require the use of a 108° vee anvil micrometer. Those with imprints from even numbers of lands and grooves are, of course, amenable to being measured with the standard opposed anvil micrometers, that are familiar to all of us.

All of these micrometers are readily available from most tool supply establishments, the principal objection being that they are extremely expensive. An estimated cost for the three listed above would be about nine-hundred dollars.

To now come to grips with the most serious problem in becoming equipped to measure samples with varying land and groove impressions, a number of them are encountered that have seven land and groove impressions. These samples can only be measured with a vee anvil micrometer whose anvil is 128° 34' 17", and no such instrument is commercially available. However, necessity being the mother of invention, I spent a few months working out the trigonometry involved, and making a vee block that measured (by mathematics) 128° 3'. From using this to measure samples with seven lands and grooves impressions, to mounting the block in a micrometer was the logical

Continued on page 7

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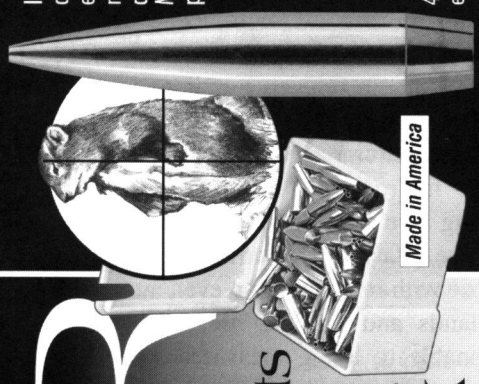

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Editorial

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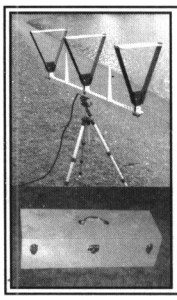
progression and I now find myself the pleased, if not proud, possessor of the only seven flute capacity vee anvil micrometer in captivity.

While my address has changed, I continue my free service of measuring samples from the bores of weapons with odd numbers of lands and grooves. Samples should be carefully packed to prevent transit damage, and sent to O.H. McKagen, 9229 Arlington Blvd., Apt 551, Fairfax, VA, 22031. The service continues to be free, but I will appreciate the enclosure of a stamped, self addressed envelope.

O.H. McKagen

I tell you something fascinating... John Kerry's victory over Howard Dean has completely changed the Presidential race around. Now instead of the rich white guy from Yale who lives in the White House facing off against the rich white guy from Yale who lives in Vermont, he may have to face the rich white guy from Yale who lives in Massachusetts. Yes, it's now a whole different ball game.

Jay Leno



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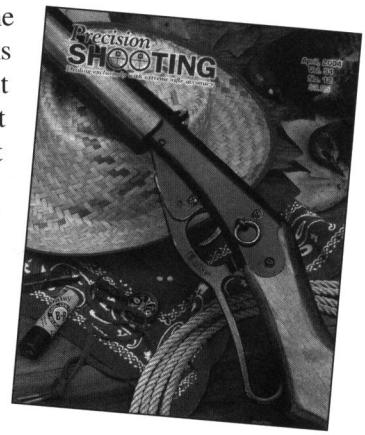
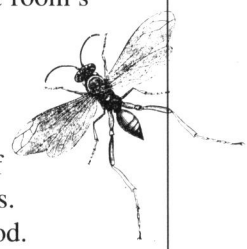


They didn't call my cousin Bad Bob and me Wild Willie for nothing. Back then, most folks knew darn good and well that we were just about the roughest and toughest cowpokes riding that part of the range. At least those that didn't hanker to die with their boots on did.

And for good reason, seeing as how both of us always packed six-shooters... matched pairs of short barreled Colts with nickel plating, fancy engraving, and carved ivory grips. Buckled on at first light, slung low and tied down, they came off only when it was time for a dip in the creek and unrolling our blankets along side the fire. Most Friday and Saturday nights we'd be up at the big house an hour or so longer. There, astride couch arms in the front room's flickering gloom, Bob and I never tired of clearing leather against the likes of Milton Berle, George Gobel, Sid Ceasar, Jackie Gleason, and Ed Sullivan.



However, we really started cutting a wide swath through that stretch of frontier after finding ourselves on the receiving end of Christmas-bestowed Daisy carbines. Lever action saddle guns. Strong and sturdy. Blued and blackened metal and dark-stained wood. And with a picture of Red Ryder and the way he signed his name burned into their stocks. Quick and handy. Straight shooting and hard hitting.

The days of Pecos Pigeon and The Sundance Starling were suddenly numbered. So, too, were those of the infamous Mud On The Wall Gang. Known thereabouts as the Dauber Bunch, that outfit of ornery varmints was forever fixing to hole up in the chickenhouse or machine shed or barn. The cussed no-counts needed water, though, and on hot summer afternoons Ol' Bob and I would bushwhack them from the back porch steps as they came to a spot kept beneath the cistern's spout.

As often as not, they seemed to appear out of nowhere, and before we knew it one of their kind would be slipping and crawling and sneaking real careful like up to that waterhole when...spa-tack! It took some tolerable steady nerves and almighty close holding to pick them off way out there at six or eight feet. Even at that distance, those big brass-or copper-colored slugs would pretty well blow a Dauber to doll rags.

Like I said, they didn't call us Bad Bob and Wild Willie for nothing. At least not back in those days.

Considering the era of such shootouts and drygulchings, Cuz and your truly were no doubt wielding carbines built during the several or so years immediately following World War Two's conclusion. The 1950s and '60s saw the ever popular airguns undergoing evolution which included the use of plastics and other various cost-saving measures. Then, in 1972 and thanks to a nostalgia craze sweeping the country, Daisy more or less recreated the original Red Ryder in its Model 1938...commemorating the year in which the world famous arm was introduced. The cover featured Red Ryder carbine, a Model 1938 built in the late'70s, was generously provided for photography by Mr. And Mrs. Harold Sanders of Cape Girardeau, MO.

Cover photo and narrative: Bill Headrick

Some of Bart's 2003 trophies on display.

Interview: Lt. Col. Bart Sauter

2003 Benchrest Shooter of the Year

Wherein: We attempt to pry from Lt. Col. Sauter all the secrets that let him win the 2003 Shooter of the Year title.

BY DICK WRIGHT

Each year *Precision Shooting*, sponsor of the award, selects seven matches that will count toward the coveted "Benchrest Shooter of the Year" title. In 2003 the matches selected were the Super Shoot, both the NBRSA and IBS Nationals, the Cactus Classic, the Crawfish, the Keystone Challenge and the IBS 200 & 300 yd. Nationals. Competitors receive points only for finishes in the top three places in any part of these matches. This year, when the shooting ceased and the points were tallied, Lt. Col. Bart Sauter finished with a comfortable margin over second place competitor, Ken Hottenstein of Michigan.

Glorya and I first met Lt. Colonel Bart Sauter at the Cactus Classic back in the mid-90's. It took only that one match to convince us that the lad could shoot. A year or two later Bart came ever so close to winning the 1996 Super Shoot. That year he went into the final day's competition with a big lead over everybody. Alas, that last day brought winds that gave Bart real problems and negated his chances to become one of the youngest winners ever of that event.

Since that year Bart has continued to shoot as much as duty allowed. Almost every time he has been transferred by the Army, he has built a range of his own at or near his home. A few years ago he started his own benchrest bullet business and it has become very successful. Find his ad for "Bart's Bullets" herein.

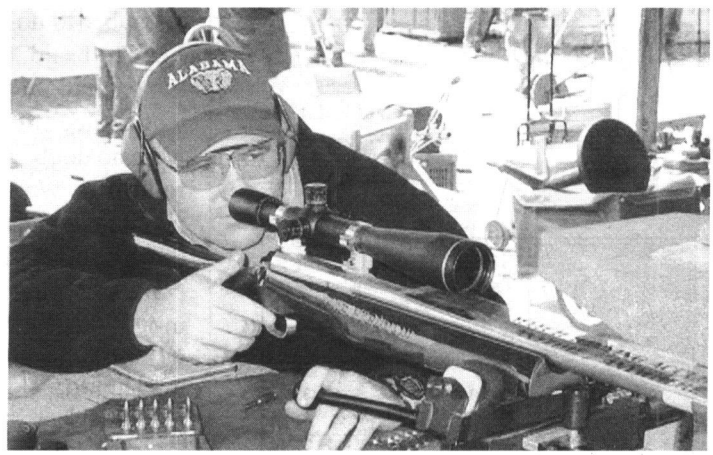
In 2003 Lt. Col. Sauter had his best year yet in benchrest. The following is a partial list of his accomplishments. Keep in mind that this was in only one year...

2003 *Precision Shooting* "Shooter of the Year".
Second Place winner—2003 Super Shoot
I.B.S. Four-Gun Champion
I.B.S. Two-Gun Champ
I.B.S. Light Varmint 200 yd. Champ
I.B.S. Light Varmint Grand Champ
NBRSA Light Varmint Grand Champ
NBRSA World Record Holder, 200 yd. five shot Unlimited
NBRSA S.E. Region Four-Gun 300 yd. Champ
Rachel's Glen Four-Gun Champ 200 yds.
St. Louis Two-Gun Champ
During the 2003 season Bart managed to win five Hall of Fame points.
Not bad for a country boy from St. Joseph, Missouri.

DW: Bart, first I'd like to congratulate you on winning the 2003 *Precision Shooting* "Shooter of the Year" award. You had a great year.

BS: Thanks, Dick. It has been a good year.

DW: You know, there's a lot of people out there shooting in benchrest matches and a lot of people pursuing the points one needs to be "Shooter of the Year". I would like to explore what you did to set yourself apart from and ahead of the crowd. This doesn't just "Happen". I think one might luck into a good group now and then. I think it's pretty hard to luck into a winning five group aggregate, even in a small match. To win matches and the honor you did is not luck. How did you do it?



Bart at the bench, circa 2003. Note the high tech shooting glasses.

BS: Dick, a lot of good things happened and I got help from some great people. On top of that list would be my newly adopted parents, Tony (Pops) and Faye (Maw) Boyer. Without their help I wouldn't be shooting anywhere near the level I am now and I certainly wouldn't have won "Shooter of the Year".

DW: Did I hear you correctly when you said Tony and Faye are your newly adopted parents?

BS: Correct. Several years ago I told Tony that I wanted to be adopted. At that time he laughed and said that he had pretty much done that with Wayne Campbell (Current World Champion). I told him that Wayne was plenty tough enough and it was time to kick him out of the nest. It's not easy to get adopted by the Boyer family, but I finally made it. I think when I sent Tony a pair of socks for Father's Day he knew he didn't have any other choice.

Author's note to the Boyers... "Er, congratulations!... I guess."

DW: So how have Tony and Faye helped you towards becoming "Shooter of the Year"?

BS: Tony has made several changes in the way I shoot. Some may seem minor but they have made a significant difference. I used to shoot holding the rifle and now I shoot free recoil. I used to twist knobs and use a windage top but now I shoot a Farley rest. These may seem like small things but they add up to make me a stronger competitor. PH4

Well, look at it this way. I have been

Continued on next page

Bart Sauter (c.) and his "adopted" parents, Tony and Faye Boyer.

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Interview: Lt. Col. Bart Sauter

Continued

shooting benchrest for twelve years. In that time I have won one "Hall of Fame" point on my own. Since taking my first lesson from Tony a year and a half ago, I've picked up an additional six points. You don't get that much better without some serious help.

Hopefully, in the not so distant future Tony's book will be published and for a few bucks bench resters can read and learn from the best there has ever been. However, if they are like me and can't stand the wait, for a couple of hundred bucks or so they can go get all their questions answered on top of the mountain.

(Note: should any reader not know about "Tony School", I can help. Tony Boyer is the best benchrest shooter ever. He has won just about twice as many Hall of Fame points as the next best shooter. Since Tony retired from his day job a couple of years ago he has been giving benchrest shooting instruction for a very reasonable price per day plus expenses. Call him at 540-269-2573 to make your reservations.)

Back to Lt. Col. Bart...

BS: As far as "Shooter of the Year", I didn't realize that I was in the running for it but, fortunately, Faye and Tony did. I was seriously considering skipping the NBRSA Nationals in Phoenix. I'd been doing a lot of shooting all summer and it is a very long drive out to Phoenix. Both Faye and Tony gently nudged me till I decided to go. The result of my going to the NBRSA's was enough points to win "Benchrest Shooter of the Year". I also picked up two more "Benchrest Hall of Fame" points. I would have had neither had it not been for Maw and Pops.

DW: Tell me about your equipment.

BS: Well, my rifle was built by Billy Stevens of Stevens Accuracy and has a 7.5" BAT action on a Kelbly stock with a 45 power Leupold Competition Series scope. Last year I pretty much exclusively shot Shilen 14" twist barrels. One of the major breakthroughs for me was finally getting a stock that I really like. Let me restate that: I love Kelbly flat bottom stocks.

They ride the bags like a dream and feel solid when you are firing. They are also light enough that I can use the heavier Competition Series scopes and still have a five lb. barrel. Another little piece of equipment that helped is a good pair of shooting glasses.

DW: Tell me more about the glasses.

BS: I used a pair of Decot Hy-Wyd sport glasses this year. (Note: Decot Hy-Wyd is a **PS** advertiser.) Jim Casey, a shooting buddy, and Billy Stevens turned me on to the Decots. The lens are quite large and shaped a lot like what we used to call "pilot's glasses". The orange tint makes the target easier to see. Looking thru the glasses, the black of the target is blacker and contrasts very well with the whites. The edges of the image are very sharp. The nose pieces of the glasses adjust so you are looking through the optical center of the lens as you shoot. You can also get the wrap around earpieces which I like since they hold the glasses in place very well and my earmuffs seal over them, the better to block out the noise. They seal better than with the blade style ear pieces. Mine are prescription which really helps in watching the wind flags.

DW: I gotta get me a pair of those before spring.

BS: Dick, in all fairness, a lot of credit to the bullets that I make and sell. I primarily shot my Ultra 68 grain bullet for most of the season and they definitely helped me win. Additionally, my bullets won for several other shooters including the World Championship which Wayne Campbell won.

DW: Your bullets really did win a ton of matches this year, didn't they?

BS: Dick, Bart's Custom Bullets is a relatively new kid on the block as far as the bullet making business goes. I know that we turn out a good product but I felt it would be another ten years before we would have a year like this one. The long and the short of it is our bullets won nearly every major match except the NBRSA Nationals and we made a

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pretty good run at that.

Here's an abbreviated, (just the high points) list of wins that includes the major matches won this year.

World Championships—1st place, Two Gun, Also they won five of the gold medals.

Super Shoot—1st, 2nd and third places—Two Gun

IBS Nationals—Four Gun—1st, 2nd, 5th and 6th, Three Gun—2nd, 3rd, 4th and 5th, Two Gun—1st, 3rd, 4th and 5th, LV 100 yds.—1st, LV 200 yds—1st, LV Grand Agg.—1st place.

NBRSA Nationals—HV 100—1st, Sporter 100—1st, LV Grand—1st.

NBRSA Long Range Nationals—Two Gun—1st & 2nd.

IBS Triple Crown—1st place.

There were many more wins in other and smaller matches.

Bart continues...

BS: There were also quite a number of outstanding aggregates shot with Bart's Bullets in 2003. As follows...

NBRSA Nationals—100 yd. HV—1572" shot by Joe Krupa for range record and Hall of Fame point.

IBS Nationals—Wayne Campbell shot .1518" for a HOF point

Super Shoot—100 yd. HV—Ron Hoehn shot .1596". This is the smallest agg. ever fired in a Super Shoot.

Rachel's Glen—SP 200 yds. Larry Cohen shot .1516" for a potential World Record.

Charlotte, NC.—LV 300 yd.—Bart Sauter shot .1538" for potential World Record. (Note: the existing record is .2197".)

St. Louis, MO—UL 200 yds.—Bart Sauter shot .1396". This has already been measured by the records committee and it IS a World Record.

DW: Good Lord! O.K. tell me more about your other equipment.

BS: There are a couple of things I wish I had bought years ago. First on the list would be a set of Smiley's wind flags. (The windflags made by Smiley Hensley. Used by many top-flight shooters.) They are simply superior to anything else I have used and I have had several different types. The flags are balanced and pick up the slightest change. The daisy wheels help to show the angle changes and they are virtually indestructible. Last and not least when you go to a big match like the Super Shoot or a Nationals, you stand a good chance to get on a rotation with that style flag.

The other piece of equipment that I wish I had been using for years is the Farley Co-axial Rest. I bought mine used and it has been great. The rest is extremely fast and provides the ability to quickly hold off when you see conditions changing.

I also recommend the Hood scope checker (**PS** advertiser). It is one of the better products to come along for benchrest in some time. It's always been very difficult to know for 100% certain that our scopes were working perfectly. With the scope checker, it's easy. I will test my scopes before every big match to make sure they are working properly. It's probably the best insurance you can buy for the price.

DW: You mentioned you do a lot of table drills?

BS: Table drills have certainly helped a lot. What I'll normally do is set up my rests on a table in my garage, just like I would in a match. I'll use a couple of dummy rounds to practice loading and handling the gun. I simulate recoil by pulling back on the gun. Then I can go through all the paces as if I were actually shooting the rifle... opening the bolt, extracting the cartridge, loading another and getting the rifle back on target. I also like to have at least one flag out so I can watch it and see if I can get off 5 well-aimed shots in the same condition. If nothing else, it makes me more comfortable at the bench and everything becomes second nature with no fumbling around.

The table drills have also increased my speed. A shooter should strive to learn how to get five shots on the record target in fifteen seconds or less. The less time you are exposed to conditions, the better off you are. Kim (Mrs. Sauter) recently timed me at a little over twelve seconds for five good shots. Conditions won't always allow you to shoot fast but

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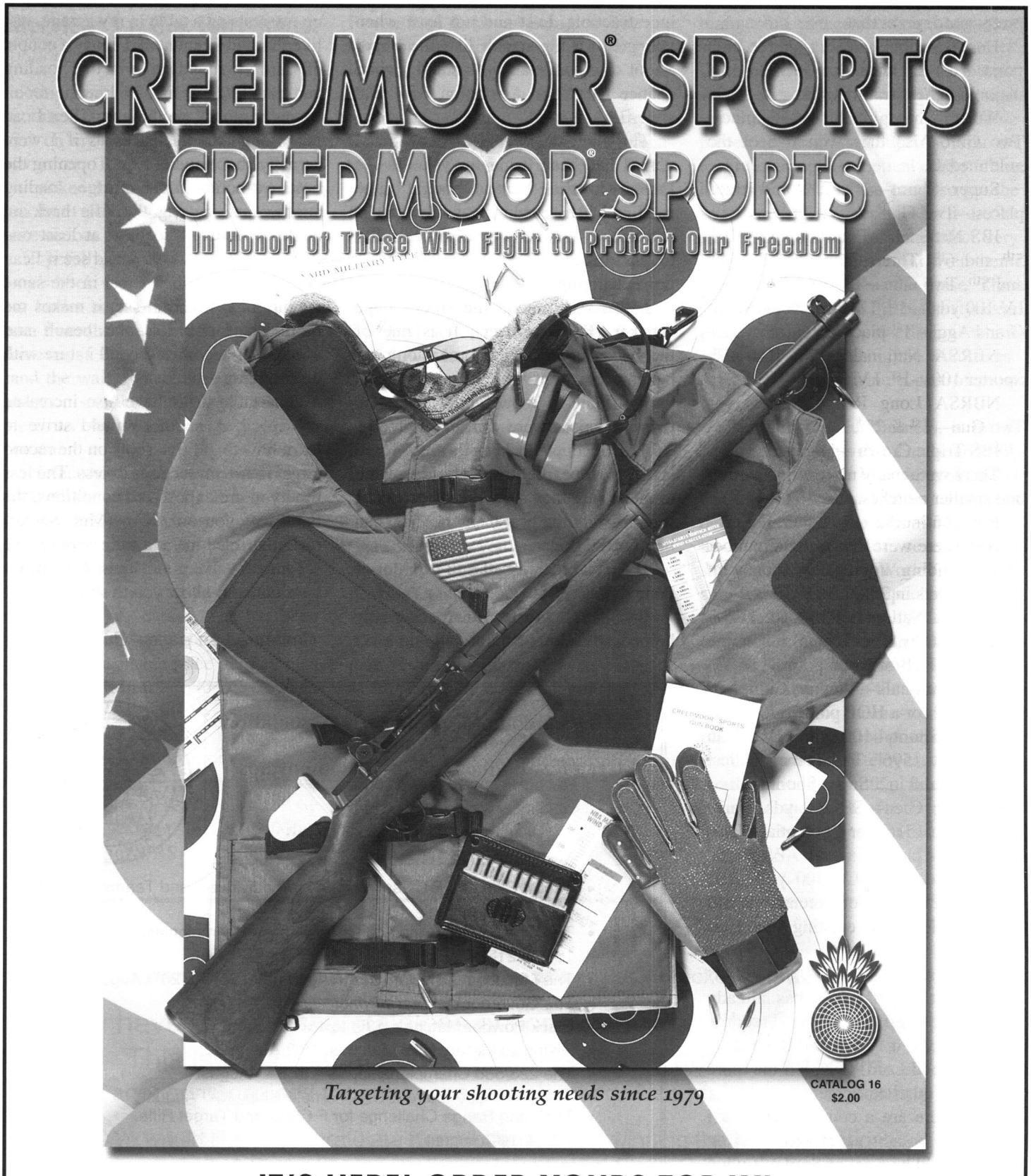

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Interview: Lt. Col. Bart Sauter

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it's good to have the option.

Another piece of the equipment equation that has really helped me is buying a supply of powder large enough to last a few years. I have been shooting 2001 VV133 for three years now and have enough to last three or more years. This is an area that many shooters neglect because it is so expensive to purchase a large quantity of powder at one time. I don't feel there is anything that special about 2001 VV133, but I have shot it enough to have learned some of its quirks. If you take a look at the top shooters in this sport, many have selected a powder they like and have been shooting it for years. Knowing how your powder reacts when conditions change is a large part of the accuracy puzzle.

DW: You have a range at home now, don't you?

BS: Yes. Kim and I bought twenty acres and built a range this year. It's about ten miles from home and has allowed me to tune, test and practice.

DW: You know, you are really lucky...

BS: You're talking about Kim and you couldn't be more correct. Kim is very supportive and doesn't object when I buy land, barrels, powder and whatever I need to shoot and be competitive. There's no way I could have accomplished what I have without her.

DW: Tell us about your Christmas present this year. I really like this story.

BS: Yes. Kim gave me a great Christmas present this year. As you know, my own range has been 100 yards only. Before Christmas, without telling me, Kim got hold of a contractor and arranged to have him take his equipment out to the range and to extend it to 200 yards. Understand that I didn't know she was doing this. Then, on Christmas, she gave me a Xmas card. Inside it were pictures of the new 200 yd. range.

DW: I know a lot of guys who should be so lucky. You made a lot of shoots this year, didn't you?

BS: I sure did. One reason is I thought I was going to be deployed to Iraq and I wanted to get in as much shooting as I could before I left. When the year was over, I think the number of matches I shot in had really helped my performance.

DW: Bart, tell us about your friend and gunsmith and long time shooting partner..

BS: Dick, "Shanky" is a real piece of work. I can't tell you how much it helps me to have a partner like the Colonel. As you know, Billy Stevens and I began shooting benchrest together in Germany and we have shot together ever since. He is a tough competitor and one hell of a gunsmith. You can never count him out of a match. One of the things that helps us is the fact that neither of us can stand to be beaten by the other. Most matches we are very close in the standings when the results are posted. For example, at the I.B.S. Nationals I edged Billy on the last group to squeak past him for the 200 yd. Light Varmint win. Billy came in a very close second. As a matter of fact, Billy finished 5th in the I.B.S. Four Gun which is pretty stout.

Billy does all my gunsmithing and we both use the same set-up as far as barrels, bullets and powder. This has been a tremendous help since at most of

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Col. Billy Stevens, Ret'd and his attack dog, Tyflo.

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the local and regional matches I usually show up just before the range master says, "Insert Bolts".

With our guns set up pretty much the same, what is working in his rifle will work in mine. It saved me a bunch, particularly before I got the range at the house up and running.

Author's note: Bart is referring to Col. Billy Stevens, Ret'd, his long time shooting partner. "The Col.", as he is known, is a retired Apache pilot who was awarded the Distinguished Flying Cross in Desert Storm. Upon retirement from the service the Col. moved to a place in the country outside Ft. Rucker, AL. and became a full time accuracy gunsmith. (Find his ad herein under "Stevens Accuracy".)

Col. Stevens has quickly become one of the more popular and busiest gunsmiths for the benchrest circuit. This year guns smithed by him won both second and third places in the 2003 Super Shoot as well as being a big factor in helping Bart win the 2003 "Benchrest Shooter of the Year".

BS: Billy and I have developed our team tactics for benchrest matches. When we are at a match we are pretty focused and want to tend to business exclusively. One thing we do is load inside the motorhome where we are unavailable to "Predators" who would interrupt and break our concentration.

DW: Tell us more about your "team concept" for matches?

BS: That would be what Billy and I call the "Hunter/Killer Team". Basically, we just work together on everything. If either of us is on the line shooting, the other is at the spotting scope watching conditions. This helps a bunch when a shot goes out of the group and you don't see what got you. Chances are Billy will be able to tell me exactly what bit me. However, if neither of us can explain why a bullet (or two) didn't go where it should have, it's probably time to change the load.

One reason we load in the motorhome is we feel it is an advantage to reload in a climate controlled area where there is pretty much a constant temperature and humidity.

Another area Billy and I have improved on is staying focused at matches. Some sagely advice that Tony gave me on my first lesson was to, "Cut out the partying".

That was a pretty dramatic lifestyle change for me and, by default, Billy. Our usual "mode of operation", no matter what the match was, would be to stay up late drinking beer in a motor home full of buddies till the wee small hours. It's amazing how much better you can shoot the next morning if you don't feel that you may die sooner rather than later.

Loading in the motorhome lets us concentrate on loading, cleaning and the match without being interrupted by anyone who decides they should talk to you, whether you are busy or not.

DW: I know what you mean there. Some guy came up to me at the Super Shoot this year, right in the middle of the match. I was putting my equipment on the bench and getting ready to shoot. He just wanted to talk. You know how quick Kelbly's range crew is. Anyway, he got all offended when I told him I couldn't be interviewed just then, (fer %%$$# ^, I wuz shooting in the biggest match of the year) but would be happy to talk later. Never saw him after that.

BS: Another thing Billy and I have found out about "Cleaner living", as advocated by Tony. This not only means less partying at a match but also fewer dinners and getting more sleep. We've offended a few good friends by cutting out social engagements at matches but, in the long run, it's helped us shoot better.

DW: Bart, tell us about your load set-ups, the "how and why" of what you do to get your rifles working.

BS: Well, having a range where you can take your equipment and work through barrels and loads and practice without being bothered is a big plus. Before I got my range, I would show up at a match with a barrel that I had never fired, get the load and seating depth

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from Billy, and fine tune as I went along. It was great training for learning to think on your feet but if the barrel wasn't all that great, I was stuck for the match. Now I have a good idea of what I think the barrel is capable of before I leave for the match.

I also try not to change much. I shoot one gun, one powder and, once I decide which 68 grain bullet that particular barrel likes, I stick with it for the life of the barrel. I want to keep things as simple and uncomplicated as possible. Many shooters make the mistake of playing with way too many variables (different guns, powder and bullets) to achieve consistent results.

DW: What are the most critical factors in tuning a barrel?

BS: I think that seating depth has to be right up at the top along with the proper powder charge.

DW: I agree.

BS: For example, there are certain seating depths that, no matter what load you put in a rifle, it won't shoot. I have also had barrels that I thought were junk that, when I hit the correct seating depth, would shoot in a hole. A perfect example is an unlimited barrel that I had and took to Rachel's Glen to shoot a 5 shot Unlimited match. After two groups and not being able to shoot smaller than .650", I put it aside in favor of my LV gun. Mind you, this was in some very nice conditions. I was certain that the barrel just would not shoot.

I let the barrel set for a few months, not wanting to waste time on one I had taken off and set aside. However, after a while I decided to take it out to the range and play with it. What was amazing is once I found the correct seating depth it came to life and shot like a house afire.

DW: Was the improvement that dramatic?

BS: I guess you could say that. The barrel went from what I felt was junk to one that now holds the 5 shot, 5 group 200 yd. NBRSA Unlimited World Record of .1396". That match was not shot on a calm day. That barrel was cutting conditions.

DW: Bart, tell us how you find your

Continued on next page

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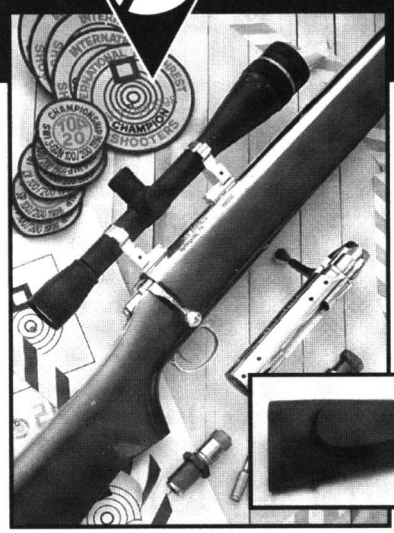

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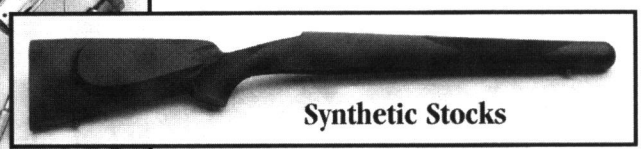

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Interview: Lt. Col. Bart Sauter

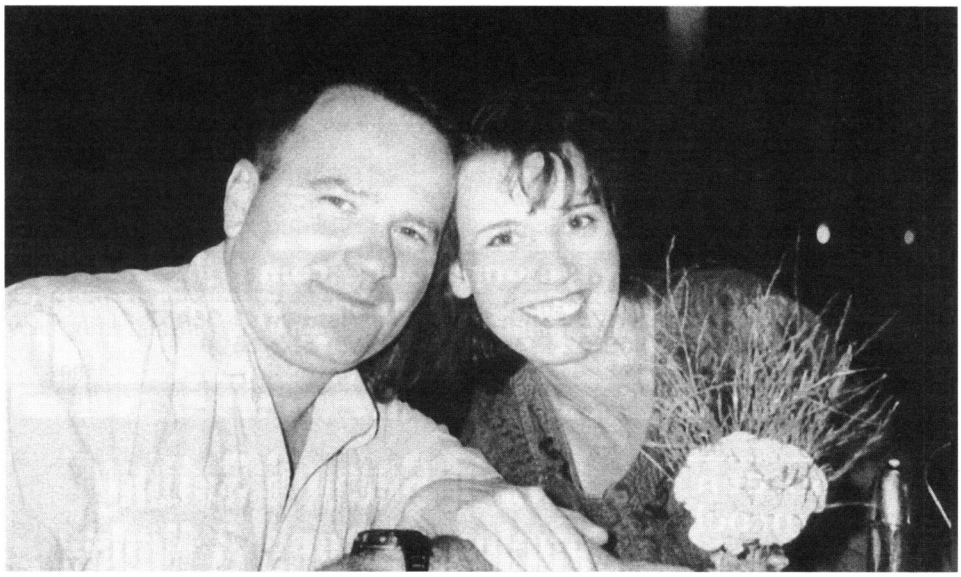
Continued

seating depth for each barrel.

BS: I start by finding the "Jam" length for my bullet. I will purposely seat a bullet too long in a case. Then I put it in the chamber and close the bolt. The rifling pushes the bullet back till the bolt is closed all the way. Now this is the "Jam" length with the cartridge as long as it will ever be when the bolt is closed. If you seat it any longer, the rifling will just push it right back to that length every time. I will "Jam" and measure a given bullet several times to make sure I am getting a consistent length.

(Author's note: you have to recheck the "Jam" every time you change bullets, either to a different weight or ogive or to a different brand.)

Having arrived at my "Jam" for that bullet, I start tuning the rifle with the bullet seated right at the "Jam". Many times I find the bullet shoots great right there. But I will experiment by shortening the overall length of the cartridge in very small increments, maybe two or three thousandths at a time, till I am satisfied that I have arrived at an optimum seating depth.



Lt. Col. Bart and Kimberly Sauter.

Actually, I have found that the resultant seating depth is most often right at or very close to the "Jam" but you have to check till you find what is optimum.

DW: What do you do next?

BS: I go to the range and shoot. I normally use 15 cases and load them so I can shoot a couple of fouling shots and four three-shot groups. I'll start using the "Jam" as a seating depth. Then I will run the powder measure. Commonly, I will load three rounds with 53 clicks of 133, three with 53-1/2 clicks, etc, thru 54-1/2 clicks. The actual powder charges will weigh between 28.6 and 29.8 grains of VV133.

After I shoot the four groups, I will change my seating depth a couple of thousandths and repeat the procedure. I may shoot the next groups .0025" short of the "Jam", the next one's .005" short, and so on. That way I can determine two things very quickly, not only the approximate powder charge the barrel likes, but also the seating depth.

DW: Let's talk about some other things that have helped you..."

BS: I think having a clean barrel is a key factor and I clean my barrel aggressively.

DW: Define "aggressive".

BS: O.K. I clean after every target and I go through the whole ritual every time. It looks something like this:

1. 2 wet patches stroked thru the bore with Butches Bore Shine.
2. 2 dry patches
3. Put Butches on my bore brush and take ten strokes back and forth.
5. 1 or 2 wet patches and let it soak.
6. I dry it out before I go shoot.

So far that's not too aggressive but, even with a new barrel, I'll seldom go a full aggregate without using Iosso or the new JB Bore Paste (the red stuff). Once a barrel has shot a full match, I'll start using the JB regularly.

DW: What else has helped you achieve what you did this year?

BS: I would have to say good barrels for one thing. Last year I went thru 5 barrels from Shilen and all of them were competitive and two were exceptional.

I really need to thank Shilen Barrels. All of my wins this year were shot with

Shilen's. As a reward for that shooting, they are providing me with ten barrels "Free of charge". By doing this they are giving a lot back to the sport. I appreciate it as I'm sure do the others who win barrels. The only other barrel maker that has the same program is the new Broughton Barrels manufactured by Tim North.

DW: So what's on your horizon for 2004?

BS: This will be a qualifying year for the 2005 World Benchrest Championships and I really want to make the team. I'm not sure how that will go but I am going to give it a try.

On a more personal note, I am planning on retiring from the military at the end of this year. I'm looking forward to more time home with Kim and my three year old boy, Heath.

DW: What's coming up for the bullet business?

BS: We'll have to see. I'm considering making either 30 cal. or 6.5 cal. match bullets. I also haven't forgotten your request for a .22 "Ultra".

DW: I understand you now have a reward program much like Shilen Rifle barrels?

BS: Yes, we started it last year. We give 1000 bullets free of charge to anyone using our bullets who wins an agg, a grand agg or a multi-gun at the Super Shoot, the I.B.S. or NBRSA Nationals or (new this year) the I.B.S. Score Nationals or to anyone who sets a World record.

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That's all we can afford for 2004.

DW: Bart, in closing give me any tips you might have for new shooters.

BS: It's best to stick to basics. I'd recommend a new shooter...

Get a good set of wind flags and always practice with them.

Buy your own reamer so all your chambers match.

Standardize your set-up... one bullet, one powder, focus on one gun.

Get out and shoot in a match; you'll learn a bunch and have a great time.

Find a good gunsmith to do your work. Don't limit yourself to one within driving distance.

Go take a lesson from Tony.

DW: Thank you, Lt. Col. Sauter

Dick Wright
Staff Writer

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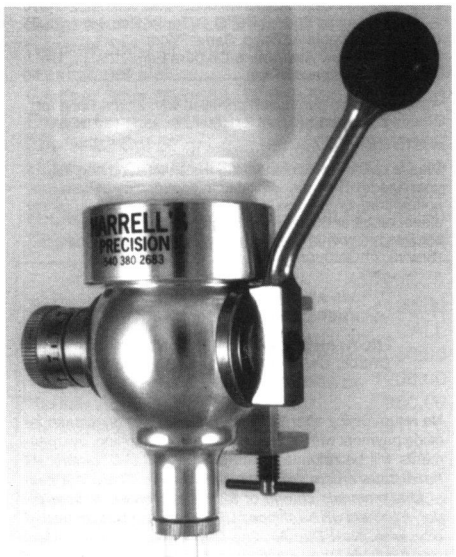

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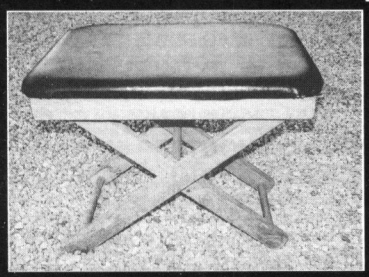

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45245 1.5-5x20 Duplex Matte ..... $ 373.82
45263 6.5-20x40mm AO Gloss Fine Duplex ..... $ 469.23
45266 3.5-10x40mm Tactical Matte ..... $ 454.62
45352 M8 4x33 Gloss Duplex ..... $ 224.88
45581 Mark 4 M1-16x40mm Matte 3/4 Target Dot $1049.43
45806 3.5-10x50 Duplex Gloss ..... $ 457.70
46173 6.5-20x40mm AO Matte Fine Duplex ..... $ 482.86
46412 3.5-10x40 Duplex Silver ..... $ 411.79
47638 Mark 4 M3-10x40mm Matte 3/4 Mil Dot $1122.45
47862 4.5-14x40 Fine Duplex AO Matte ..... $ 458.52
47867 4.5-14x50 Fine Duplex AO Matte ..... $ 512.06
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48501 3.5-10x50 Duplex Silver ..... $ 465.33
49025 6.5-20x50mm AO Matte Fine Duplex ..... $ 536.40
49026 6.5-20x50mm AO Matte Leupold Dot ..... $ 565.60
49205 4.5-14x40 AO Matte German #4 ..... $ 487.72
49208 4.5-14x40mm AO Tactical Matte Mil Dot ..... $ 574.37
49801 6.5-20x40mm EFR Target Matte Fine Duplex .. $ 521.80
49802 6.5-20x40mm EFR Target Matte Target Dot ..... $ 551.00
51605 6.5-20x50mm LR Target Matte Fine Duplex ..... $ 663.93
51606 8.5-25x50mm LR Target Matte Fine Duplex ..... $ 717.47
51621 6.5-20x50mm LR Target Matte Target Dot ..... $ 693.13
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52078 6.5-20x50mm LR Target Silver Fine Duplex ..... $ 663.95
52080 6.5-20x50mm LR Target Silver Target Dot ..... $ 693.13
52199 6.5-20x50mm LR Target Matte Mil-Dot ..... $ 736.94
53537 4.5-14x40 AO Gloss Duplex ..... $ 444.87
53539 4.5-14x40 Duplex AO Matte ..... $ 458.52
53541 4.5-14x50 Duplex AO Matte ..... $ 512.06
53543 4.5-14x40mm AO Tactial Matte Duplex ..... $ 501.35
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54051 4-12x40mm AO Matte Duplex ..... $ 359.22
54061 4-12x40mm AO Matte Leupold Dot ..... $ 388.43
54070 3-9x40mm Tactical Matte Duplex ..... $ 305.68
54081 4-12x40mm AO Silver Duplex ..... $ 359.22
54086 6-18x40mm AO Matte Duplex ..... $ 383.56
54091 6-18x40mm AO Matte Leupold Dot ..... $ 412.76
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(free shipping not available on the competition scopes)
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53434 40x-45mm MATTE TARGET CH ..... $ 879.95
53436 40x-45mm MATTE 1/8 MIN DOT ..... $ 879.95
53438 45x-45mm MATTE TARGET CH ..... $ 879.95
53440 45x-45mm MATTE 1/8 MIN DOT ..... $ 879.95

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200708 1.75x-5x Safari Taper Plex Matte Posi-Lock .... $ 347.27
200709 1.75x-5x Safari Post Crosshair Matte ..... $ 356.84
200770 4-16X44mm Ballistic Plex Matte Posi-Lock/PA ..... $ CALL
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NEW 200823 6-24x44mm Fine Plex Matte Target/PA ..... $ CALL
NEW 200824 6-24x44mm Ballistic MDot Matte Target/PA ..... $ CALL
NEW 200867 8-32 Fine Plex Matte Target/PA ..... $ CALL
NEW 200868 8-32 Ballistic Mil-Dot Matte Target/PA . $ CALL

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200057 6x-32mm HBR II SuperFine Xhr Matte ..... $ 275.52
200056 6x-32mm HBR II .375 Dot Matte ..... $ 287.96
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200162 3x-9x-40mm Ballistic Plex ..... $ 189.42
200163 3x-9x-40mm Plex NIC ..... $ 198.99
200154 3x-9x-50mm Ballistic Plex Matte ..... $ 262.13
200191 6.5x-20x-50mm Fine Plex Matte ..... $ 360.67
200192 6.5x-20x-50mm Fine Plex Target Matte ..... $ 382.68
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800588 3-10x40 A/O SILVER, Duplex ..... $ 250.45
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849811 Target SCP T-10 1.8 MOA Dot ..... $ 337.87
849977 Target T-24 1/2 MOA Dot ..... $ 360.47
849976 Target T-24 1/8 MOA Dot ..... $ 360.47
849970 Target T-36x40 FCH Dot Matte ..... $ 379.95
849981 Target T-36x40 FCH Dot Silver ..... $ 389.95
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849402 V-9 3-9x38 Matte, Mil Dot ..... $ 143.57
849404 V-10 2-10x38 Gloss, Duplex ..... $ 159.58
849405 V-10 2-10x38 Matte, Duplex ..... $ 159.58
849408 V-16MDX 4-16x42 Matte, Duplex ..... $ 266.77
849409 V-16MFC 4-16x42 Matte, FCH ..... $ 266.77
849410 V-16MDT 4-16x42 Matte, FCH Dot ..... $ 266.77
849411 V-24 6-24x42 Matte, Duplex Dot ..... $ 311.03
849412 V-24 6-24X42 Matte, Mil-Dot ..... $ 322.68

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849417 KT15 15x40 Gloss, Duplex ..... $ 229.49

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All Leupold scopes available, please call!

LPS Leupold Premier ScopesRETAIL

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53482 LPS 2.5-10x45mm Satin 30mm, german #1 ..... $806.94
53484 LPS 2.5-10x45mm Satin 30mm, german #4 ..... $806.94
52702 LPS 3.5-14X50mm Side Focus Satin, 30mm, duplex $875.08
53518 LPS 3.5-14X50mm Side Focus Satin, 30mm, target dot . $904.28
53486 LPS 3.5-14X50mm Side Focus Satin, 30mm, german #1 .. $904.28
53488 LPS 3.5-14X50mm Side Focus Satin, 30mm, german #4 .. $904.28
53490 LPS 3.5-14X50mm Side Focus Satin, 30mm, Mil-Dot $948.09

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55002 1.5-5x20mm Gloss, duplex $363.11
55004 1.5-5x20mm Gloss, heavy duplex $363.11
57700 1.5-5x20mm Gloss, wide duplex $363.11
55006 1.5-5x20mm matte, duplex $363.11
55008 1.5-5x20mm matte, heavy duplex $363.11
57710 1.5-5x20mm matte, wide duplex $363.11
55010 1.5-5x20mm matte, german #4 ..... $392.28
54902 1.5-5x20mm illum. Reticle matte, 30mm, duplex $509.09
54904 1.5-5x20mm illum. Reticle matte, 30mm, german #4 dot ... $509.09
54906 1.5-5x20mm illum. Reticle matte, 30mm, circle dot $509.09
55036 1.75-6x32mm matte, duplex $363.11
55024 1.75-6x32mm matte, heavy duplex $363.11
57720 1.75-6x32mm matte, wide duplex $363.11
55032 2.5-8x36mm gloss, duplex $363.11
57730 2.5-8x36mm gloss, wide duplex $363.11
55034 2.5-8x36mm matte, duplex $363.11
57740 2.5-8x36mm matte, wide duplex $363.11
57150 2.5-8x36mm matte, boone & crockett $406.88
55038 2.5-8x36mm silver, duplex $363.11
57750 2.5-8x36mm silver, wide duplex $363.11
55042 3.5-10x40mm gloss, duplex $398.12
57760 3.5-10x40mm gloss, wide duplex $389.12
55044 3.5-10x40mm gloss, leupold dot $427.32
55046 3.5-10x40mm matte, duplex $411.75
57770 3.5-10x40mm matte, wide duplex $411.75
55048 3.5-10x40mm matte, german #4 ..... $440.95
57155 3.5-10x40mm matte, boone & crockett $455.55
55050 3.5-10x40mm silver, duplex $411.75
57780 3.5-10x40mm silver, wide duplex $411.75
55072 3.5-10x50mm gloss, duplex $451.66
57790 3.5-10x50mm gloss, wide duplex $451.66
55074 3.5-10x50mm gloss, heavy duplex $451.66
55076 3.5-10x50mm matte, duplex $465.29
57800 3.5-10x50mm matte, wide duplex $465.29
55076 3.5-10x50mm matte, heavy duplex $465.29
55080 3.5-10x50mm matte, leupold dot $494.49
57160 3.5-10x50mm matte, boone & crockett $509.09
54912 3.5-10x50mm illum. Reticle matte, 30mm, duplex $611.30
54918 3.5-10x50mm illum. Reticle matte, 30mm, german #4 dot .. $611.30
55082 3.5-10x50mm silver, duplex $465.29
57810 3.5-10x50mm silver, wide duplex $465.29
55084 3.5-10x50mm silver, heavy duplex $465.29
55094 4.5-14x40mm matte, duplex $446.79
57820 4.5-14x40mm matte, wide duplex $446.79
57135 4.5-14x40mm matte, boone & crockett $490.59
55112 4.5-14x40mm long range gloss, fine duplex $472.14
55114 4.5-14x40mm long range gloss, duplex $472.14
55116 4.5-14x40mm long range gloss, heavy duplex $472.14
57830 4.5-14x40mm long range gloss, wide duplex $472.14
55118 4.5-14x40mm long range matte, fine duplex $485.73
55120 4.5-14x40mm long range matte, duplex $485.73
55122 4.5-14x40mm long range matte, heavy duplex $485.73
47840 4.5-14x40mm long range matte, wide duplex $485.73
55265 4.5-14x40mm long range matte, boone & crockett $529.53
55275 4.5-14x40mm long range matte, varmint hunters $529.53
58000 4.5-14x50mm gloss, duplex $486.70
58010 4.5-14x50mm gloss, boone & crockett $530.50
57950 4.5-14x50mm matte, duplex $500.33
57960 4.5-14x50mm matte, wide duplex $500.33
57970 4.5-14x50mm matte, heavy duplex $500.33
57980 4.5-14x50mm matte, boone & crockett $543.16
57990 4.5-14x50mm matte, varmint hunters $543.16
58020 4.5-14x50mm silver, duplex $500.33
58030 4.5-14x50mm silver, boone & crockett $543.16
58040 4.5-14x50mm silver, varmint hunters $543.16
55132 4.5-14x50mm long range matte, 30mm, duplex $524.66
57850 4.5-14x50mm long range matte, 30mm, wide duplex $524.66
57140 4.5-14x50mm long range matte, 30mm, boone & crockett . $568.47
47170 4.5-14x50mm long range matte, 30mm, varmint hunters ... $568.47
54922 4.5-14x50mm long range illum matte, 30mm, fine duplex .. $636.60
54928 4.5-14x50mm long range illum matte, 30mm, german #4 ... $636.60
55142 6.5-20x40mm long range gloss, 30mm, fine duplex .. $506.17
57860 6.5-20x40mm long range gloss, 30mm, wide duplex . $506.17
55144 6.5-20x40mm long range gloss, 30mm, leupold dot .. $535.37
55146 6.5-20x40mm long range matte, 30mm, fine duplex .. $510.06
57870 6.5-20x40mm long range matte, 30mm, wide duplex $510.06
57175 6.5-20x40mm long range matte, 30mm, varmint hunters $553.86
55148 6.5-20x40mm long range silver, 30mm, fine duplex .. $510.06
57880 6.5-20x40mm long range silver, 30mm, wide duplex . $510.06
55172 6.5-20x50mm long range target matte, 30mm, fine duplex . $691.11
57890 6.5-20x50mm long range target matte, 30mm, wide duplex $691.11
55176 6.5-20x50mm long range target matte, 30mm, target dot $720.32
57180 6.5-20x50mm long range target matte, 30mm, varmint hunters $734.92
55178 6.5-20x50mm long range target silver, 30mm, fine duplex . $691.11
57900 6.5-20x50mm long range target silver, 30mm wide duplex . $691.11
55179 6.5-20x50mm long range target silver, 30mm, target dot $720.32
55186 8.5-25x50mm long range target matte, 30mm, fine duplex . $730.05
57910 8.5-25x50mm long range target matte, 30mm wide duplex $730.05
55188 8.5-25x50mm long range target matte, 30mm, target dot $759.25
57185 8.5-25x50mm long range target matte, 30mm, varmint hunters $773.85

NEW* VX-II *NEW

56700 1-4X20mm matte, duplex $243.35
56725 1-4X20mm matte, wide duplex $243.35
56710 1-4X20mm matte, CPC $272.55
56730 2-7x33mm matte, duplex $257.95
53755 2-7x33mm matte, wide duplex $257.95
56740 2-7x33mm matte, Leupold dot $287.15
56760 3-9x40mm gloss, duplex $258.92
56770 3-9x40mm gloss, heavy duplex $258.92
56775 3-9x40mm gloss, wide duplex $258.92
56780 3-9x40mm matte, duplex $262.82
56855 3-9x40mm matte, wide duplex $262.82
56790 3-9x40mm matte, Leupold dot $292.02
56800 3-9x40mm matte, CPC $292.02
56810 3-9x40mm matte, post & duplex $292.02
56820 3-9x40mm matte, German #1 ..... $292.02
56830 3-9x40mm matte, German #4 ..... $292.02
56850 3-9x40mm silver, duplex $262.82
56865 3-9x40mm silver, wide duplex $262.82
56880 3-9x50mm gloss, duplex $307.59
56890 3-9x50mm gloss, heavy duplex $307.59
56895 3-9x50mm gloss, wide duplex $307.59
56900 3-9x50mm matte, duplex $311.49
56910 3-9x50mm matte, heavy duplex $311.49
56905 3-9x50mm matte, wide duplex $311.49
56920 3-9x50mm matte, leupold dot $340.69
56930 3-9x50mm matte, german #1 ..... $340.69
56940 3-9x50mm matte, german #4 ..... $340.69
56950 4-12x40mm AO matte, fine duplex $368.92
56985 4-12x40mm AO matte, wide duplex $368.92
56960 4-12x40mm AO matte, leupold dot $698.12
56970 4-12x40mm AO matte, german #4 ..... $398.12
57000 4-12x40mm AO silver, fine duplex $368.92
57005 4-12x40mm AO silver, wide duplex $368.92
57010 6-18x40mm AO matte, fine duplex $398.12
57035 6-18x40mm AO matte, wide duplex $398.12
57020 6-18x40mm AO matte, target dot $427.00
57040 6-18x40mm AO target matte, fine duplex $427.00
57125 6-18x40mm AO target matte, wide duplex $427.00
57100 6-18x40mm AO target matte, target dot $456.52

VX-I SCOPES

53743 2-7x33mm gloss, duplex $180.08
56610 2-7x33mm gloss, wide duplex $180.08
56550 2-7x33mm matte, duplex $183.97
56620 2-7x33mm matte, wide duplex $183.97
53801 3-9x40mm gloss, duplex $193.71
56630 3-9x40mm gloss, wide duplex $193.71
56600 3-9x40mm matte, duplex $197.60
56640 3-9x40mm matte, wide duplex $197.60
53753 4-12x40mm gloss, duplex $232.64
56660 4-12x40mm gloss, wide duplex $232.64
56650 4-12x40mm matte, duplex $236.54
56680 4-12x40mm matte, wide duplex $236.54

NEW* RIFLEMAN *NEW

56150 Rifleman 2-7x33mm matte, wide duplex $180.08
56160 Rifleman 3-9x40mm matte, wide duplex $193.71
56170 Rifleman 4-12X40mm matte, wide duplex $285.21

COMPETITION SERIES

53430 35x45mm matte, target crosshair $875.00
53432 35x45mm matte, 1/8 min dot $875.00
53434 40x45mm matte, target crosshair $875.00
53436 40x45mm matte, 1/8 min dot $875.00
53438 45x45mm matte, target crosshair $875.00
53440 45x45mm matte, 1/8 min dot $875.00

HANDGUN EER

28592 M8 2x20mm EER gloss, duplex $182.03
35833 M8 2x20mm EER silver, duplex $195.65
47210 M8 4x28mm EER matte, duplex $247.24
41142 M8 4x28mm EER silver, duplex $247.24
47196 M8 2.5-8x32mm EER gloss, duplex $346.53
47198 M8 2.5-8x32mm EER silver, duplex $360.16

SHOTGUN

56720 1-4x20mm Shotgun matte, heavy duplex $243.35
56750 2-7x33mm Shotgun matte, heavy duplex $257.95

COMPACT

52202 M8 2-5x20mm compact matte, duplex $183.97
52203 M8 2-5x20mm compact matte, heavy duplex $183.97
41129 M8 4x28mm compact RF special gloss, fine duplex .. $193.71
40400 2-7x28mm compact gloss, duplex $203.44
46340 2-7x28mm compact RF special gloss, fine duplex $203.44
38005 3-9x33mm compact matte, duplex $217.07
45024 3-9x33mm compact silver, duplex $217.07

AIR RIFLE EFR SCOPES

46402 3-9x33mm compact EFR gloss, duplex $233.62
55152 6.5-20x40mm EFR target matte, fine duplex $534.40
55154 6.5-20x40mm EFR target matte, target dot $563.59

FIXED MAGNIFICATION

50140 M8 2.5x28mm IER scout matte, duplex $183.97
50184 M8 2.5x28mm IER scope silver, duplex $183.97
45352 M8 4x33mm gloss, duplex $193.71
45358 M8 4x33mm gloss, leupold dot $222.91
45361 M8 4x33mm gloss, post & duplex $222.91
45376 M8 4x33mm matte, duplex $197.60
16541 M8 6x36mm gloss, duplex $232.64
27061 M8 6x36mm gloss, leupold dot $261.84
16543 M8 6x36mm gloss, post & duplex $261.84
45218 M8 6x42mm gloss, duplex $296.89
45221 M8 6x42mm gloss, heavy duplex $296.89
45224 M8 6x42mm gloss, post & duplex $326.09
48344 M8 6x42mm gloss, german #4 ..... $326.09
46181 M8 6x42mm matte, duplex $310.51
47212 M8 6x42mm matte, heavy duplex $310.51
48346 M8 6x42mm matte, german #4 ..... $339.72
50229 M8 6x42mm AO target matte, duplex $360.16
45535 M8 12x40mm AO gloss, fine duplex $331.93
45537 M8 12x40mm AO gloss, leupold dot $361.13

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521551-3x14mm CQ/T matte, circle dot $680.41

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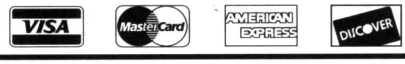


Anschutzing *The Blue* "Borregos"

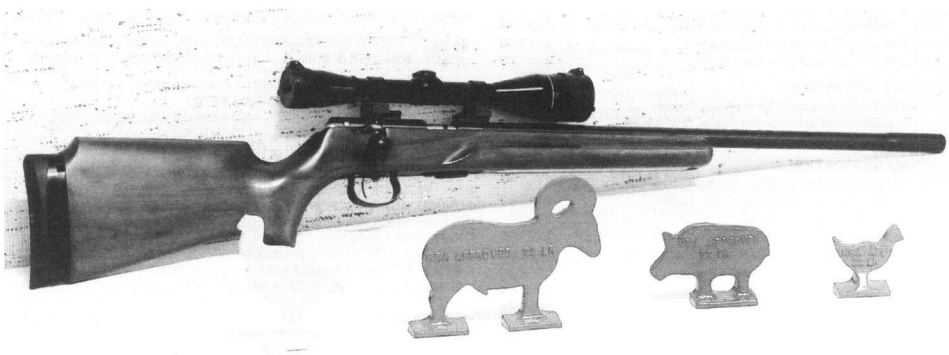
These cool one fifth scale animal silhouette targets come from Ray Shafer of Bostic, North Carolina...an excellent tool to hone your offhand shooting skill.

BY JERRY STORDAHL

There were five of them....just standing in a row, immobile in the sunshine, and if they'd been real ones, I guess they would've headed for the hills as soon as I raised the Anschutz 64. But, they were nothing more than cast iron figures, molded in the shape of rams, and they were just waiting for the strike of 40 grains of rimfire lead. That was their purpose.....to stand there and receive the shot.....then fall over....a simple life.

If they'd been real ones, they would have been called midgets, because these rams were short.....I mean real short, as in 1/5 scale. These "borregos" were sized for the rimfire silhouette game, and measured 5.5 inches tall at the horns by 6.5 inches in body length. They were lined up at one hundred yards or one hundred meters depending on the particular measuring system used, and also there were yellow "Gualotes" (turkeys) at seventy seven yards, and red "Javelinas" (pigs) at sixty yards, and finally the green "Gallinas" (chickens) at forty yards. The coloring system is my own choice for informal "Anschutzing" at home. Many shooting clubs paint the figures white.

The game is old. Dating back to 1914, the contest is said to have originated in a camp of Pancho Villa, down along the Mexican border. There was a dispute between two of Villa's henchmen....maybe over a card game, possibly because of too many swigs from the tequila bottle, or perhaps over a slight disagreement on whose horse could run the fastest and farthest....but instead of killing each other, it was determined the two should fire their weapons at long range, attempting to strike a beef that was slated for the barbeque grill. Each man would shoot alternately, and the first to kill the steer would win the disagreement.



The Anschutz 64 MPR (Multi Purpose Rifle) can be used for almost every type of shooting...varmints, formal target, silhouette, or just plain fun.

The contest was enjoyed by all, and of course, everybody wanted to try a shot, so the competition was repeated using other animals at varying distances. After the Mexican Revolution ended, the competition shooting continued in different parts of Old Mexico, until sometime in the forties. At that time, live animals were replaced by metal silhouettes, and the sport of "Silhouetas Metallicas" was born.

Don Gongalo Qguilar organized the first match in 1948 in Mexico City, using the metal silhouettes of "Borregos" at 500 meters, "Gualotes" at 385 meters, and "Gallinas" at 200 meters. The "Javelinas" at 300 meters were added several years later, about the mid sixties.

Eventually, the game crossed the border, and in 1968, the Tucson Rifle Club hosted the first formal Metallic Silhouette competition. In 1972, the National Rifle Association sponsored its first Rifle Silhouette championships, and Metallic Silhouette became an officially recognized shooting discipline.

It wasn't long before the course was reduced, so rimfire shooters could be involved, and this is the reason for the 1/5 scale of the targets and the reduced ranges. A shooting range can be more easily established when 100 yards is

the longest shot, and many more shooting organizations can sponsor rimfire events, due to the lesser distances needed for the matches.

And there are rules. For Standard Silhouette Rifle, the firearm cannot weigh over 10 pounds and 2 ounces, including sights. When I first decided to purchase an Anschutz 64 MPR (Multi Purpose Rifle) I was somewhat concerned with the rifle's advertised 9 pound weight, as I mentally tallied the numbers for a scope, rings and bases.... but the Anschutz made it under the limits....by at least 2 ounces, and if necessary, I could always remove the Butler Creek flip up scope caps to shave another ounce.

The stock must be traditionally styled, and any trigger can be used that is safe and not subject to accidental discharge. The barrel may be no longer than 30 inches, the rifle shall be chambered for only factory loaded .22 short, long, or long rifle rimfire cartridges. The hot .22 loads such as "Stingers" cannot be used.

There is a Smallbore Hunting Silhouette Rifle category also, with an 8.5 pound weight limit, a 2 pound trigger requirement, and a hunting style stock rule. Slings cannot be used for shooting, and a 2.5 minute span is allotted per bank of five targets. All the firing is done offhand. There are more rules, but serious competitors need to find an official NRA summary and read it.

I first saw an Anschutz 64 MPR in a gunshop, laying in an opened gun case. I discreetly studied the lines of the rifle, noting the price tag, the very dark stock, and the name "Anschutz" which I had always believed was synonymous with accuracy. The one I was studying was already sold, and I decided I'd have to consider finding one....someday.

Well, that day arrived, and I found an acceptable deal at Champion's Choice in Tennessee. After making the arrangements with a nearby dealer, I busied myself with ordering scope bases and a set of rings for the 64. I had a 1977 Leupold M-8 scope in 10X that had an adjustable objective, that could focus down to 25 yards, so I decided for the interim, that scope would suffice.

The rifle arrived, packed in styrofoam, with the stock and barrelled action separated. After cleaning and assembly, I shouldered it....not bad. As its name implies, the Anschutz 64 Multi Purpose Rifle is supposed to fill the role for a variety of uses....and I think it will. I chose this particular model because it is the perfect rimfire companion rifle to duplicate the shooting and weight qualities of centerfire varmint rifles....plus I wanted a rimfire rifle that would put five shots in the same hole at 50 yards. I also wanted a rifle that would allow some informal silhouette shooting....and maybe even some real match shooting. Well..... the 64 MPR will serve.

The stock is typical target configuration, cut and shaped from a very dense hardwood, with a pleasing medium brown tone, beavertail forearm, and 14 inch length of pull. The buttplate has a removeable spacer that could shorten the length of pull slightly, plus the black, checkered rubber butt pad is adjustable vertically by loosening an allen head hex screw. An accessory rail .880 inches wide and 9.625 inches long is inletted and fastened into the forearm. The beavertail forearm is 2.195 inches at its widest point. It is a comfortable stock, with the trigger guard, floorplate, and magazine catch inletted and secured to the wood with its own screw, which means the bottom metal does not have to be removed each time you separate the barrelled action from its stock. The barrelled action is torqued into the stock with two slotted screws at 44 inch pounds, with the barrel free floated, extending from the front receiver ring forward. Torquing to the proper specifications assures consistency, and that is a factor of accuracy.

And the match target grade barrel is impressive. Utilizing an 8 groove, 16.5 inch twist rate, the MPR barrel measures 25.5 inches long and .944 at the muzzle. Two grooves extend from the muzzle back 3.270 inches, providing an 11 millimeter mounting for a target

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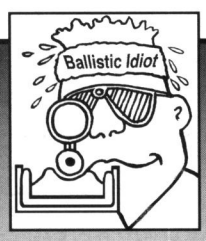

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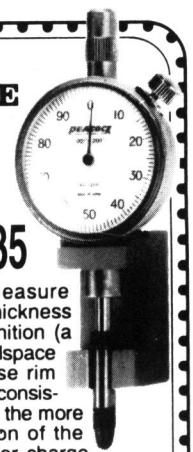

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Anschutzing The Blue "Borregos"

Continued

sight. The barrel tapers to .890 at the termination of the sight mounting grooves. The fat barrel is stamped "Anschutz Mod 64" and Cal. .22 Long Rifle, along with the usual warning found on today's rifles, concerning the reading of the instructions prior to use. The barrel is finished with a countersunk target crown. My particular rifle has the blued, chrome moly version, but stainless steel is available for those who don't mind the unblued barrel.

The Model 64 Match action is the heart of the MPR. Though it is lighter than the famous Olympic winning Anschutz Model 54 action, it retains all the match quality and craftsmanship that shooters the world over have come to expect from Anschutz. The action is a drilled and machined cylinder with J.G. Anschutz, Ulm, Germany stamped on the left side. On the right, the receiver is marked Tristar NKC MO. The top is machined with a pair of grooves to form an 11 millimeter mounting for rear target sights or scope rings. The receiver is also drilled and tapped to utitize conventional mounting methods. Left hand models are also available.

The bolt sports a recessed bolt face with dual claw extractors and a cartridge guide that insures reliable feeding from the detachable magazine. The cartridge guide can be seen at the bottom of the front of the bolt assembly as a machined rail. This contacts the rear of the cartridge as the bolt is pushed forward. Once the cartridge clears the rear magazine lips, the magazine spring pops the cartridge up, aligning it with the chamber.

Disassembly can be accomplished quickly by twisting the forward part of the bolt. Once the bolt is in two pieces the firing pin can be dropped out....it only takes a few seconds and is very convenient. Removing the bolt from the action takes longer, as you must push the bolt latch forward on the left side of the receiver in unison with depressing the trigger. I have found it convenient to manipulate the bolt latch and depress the trigger with my left fingers and thumb, while slipping the bolt rearward with the shooting hand. For dry firing, the firing pin can easily be left out of the bolt when it is reinstalled, thereby preventing any nicks on the chamber face.

The bolt knob is smooth black nylon measuring .970 inches in diameter and deserves mention, as it is large enough to facilitate working the bolt easily. I like the large bolt knob, and if your tastes run to more exotic hues, there are red, blue, and lilac knobs available....plus a designer type knob with circular grooves, looking more like a bee hive than a bolt knob. I'll stick with the conventional round style in black.

One of the most notable attributes of Anschutz rifles must be their triggers. The MPR is equipped with a two stage match trigger, model number 5098 which is fully adjustable for sear engagement and weight of pull. A hole in the side of the stock allows instant access to a screw that can be adjusted for sear engagement. This is the distance between the second stage and the release of the trigger, and instructions for optimum setting

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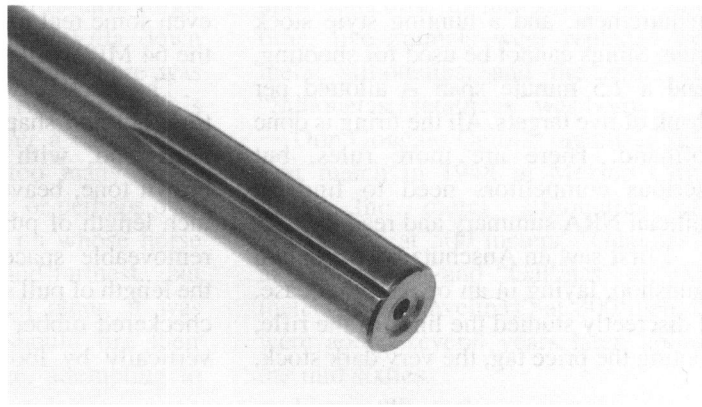
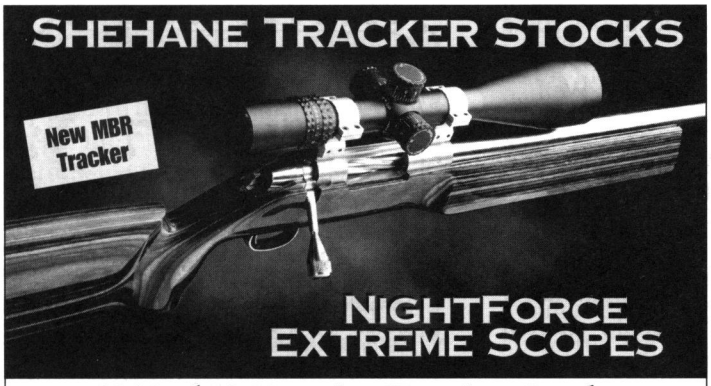


The heavy barrel is grooved for front sight mounting, and the muzzle is countersunk to help protect it from inadvertent damage.



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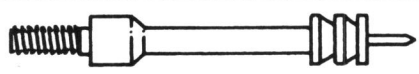

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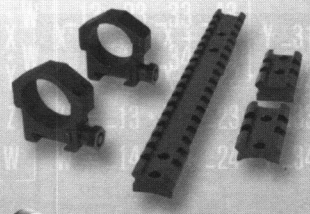

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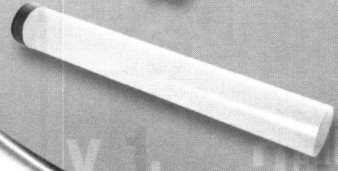

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Anschutzing The Blue "Borregos"

Continued from page 24

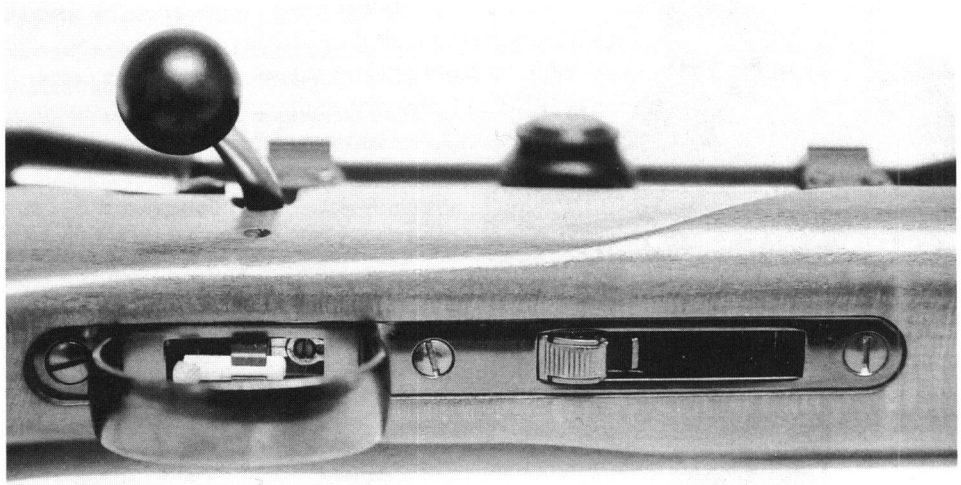
are provided in the owner's manual.

The weight adjusting screw can be viewed from the bottom where the trigger projects into the guard. The trigger fit or position of the trigger blade is also adjustable fore and aft, by loosening a screw and sliding it to the desired position. The MPR was factory set for a little over 9 ounces, a bit too light for my tastes, so I increased it to 12.5 ounces. Even that takes some getting used to.....as most of my experience has been with 4 pound triggers on other rimfire rifles. A safety lever is located on the right side of the receiver, with forward position as the firing mode.

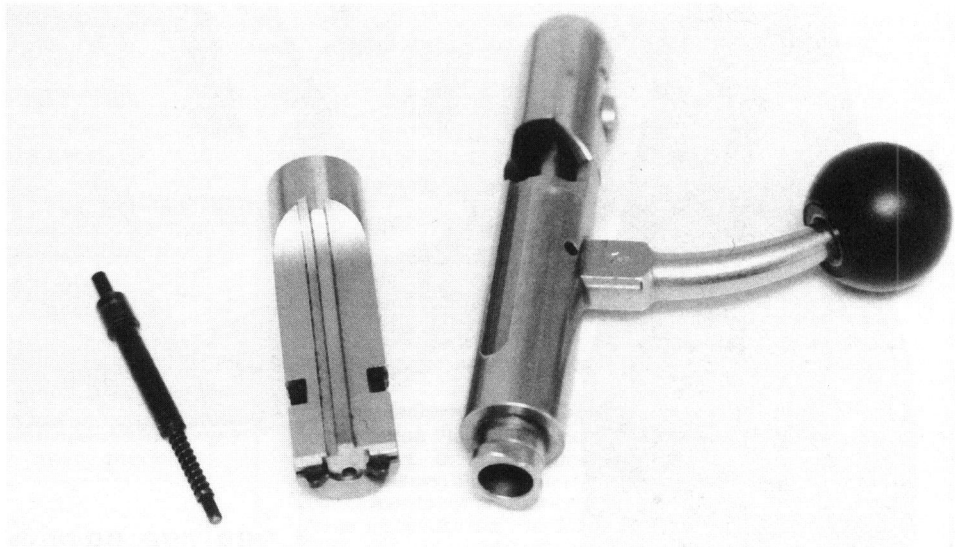
The 5 round magazine is steel and well made, with synthetic red follower and black synthetic, removeable floorplate. Disassembly is as simple as prying the end of the internal spring up out of a groove at the junction of the floorplate and the side of the magazine body....the floorplate can then be slid forward and off for inspection and cleaning. The MPR uses the Anschutz 1420-U5 which holds five .22 rounds. The magazine fits nearly flush with the bottom metal of the rifle, which I like. Only the .210 inch thickness of the magazine floorplate projects below the bottom line of the rifle. This makes the mag somewhat difficult to grasp in cold weather, but I have learned to tuck the rifle under my right arm, against my body, and push the magazine catch forward with the first joint of my right shooting finger, at the same time pulling the mag down with my left fingers. It's not fast, but it is probably quicker to change magazines than load a tubular mag equipped rifle. The rifle is provided with one five round magazine, but I added two spare mags at the time of ordering the rifle.

Accessories included with the Anschutz 64 MPR are a small screwdriver and hex key for trigger adjustments, a hex key for butt pad adjustment, a keyed trigger safety lock, and an instruction manual.

Weaver Grand Slam steel bases were used, number S-91 for both front and rear. Leupold matte finished PRW rings in medium height were installed, and as mentioned earlier the Leupold 10X scope. So, how did it shoot? Great! The rifle was delivered with a ten shot test target fired at 55 yards. The factory supplied group measured .331, but this



Trigger release weight is adjusted with the screw in front of the trigger blade, while the sear engagement screw can be accessed through the hole in the side of the stock.



This bottom view of the disassembled bolt shows the machined rail that pushes the rimfire cartridge from the magazine as the bolt is manipulated.

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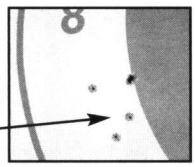

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was likely fired from a machine rest from some type of fixture.

I fired five shot groups at 55 yards, in prone position with a rest under the forearm and a rear bag. The plinking grade of .22 cartridges ran from the .5s to over an inch in some cases, with CCI Standard Velocity doing the best..... but getting into the more serious and more expensive ammunition produced superior results. Remington/Eley Target gave a .264, a .342, and a .567 inch group, each with five shots. Great possibilities, I thought. With rimfires, shooting into one hole not only requires match grade barrels and chambers....it also means hunting for the perfect ammo for a particular rifle.

Further shooting produced a .197 inch group with the Remington/Eley Target with five shots nestled in one hole on the "Ace of Diamonds," taken from an old deck of cards. Federal Gold Medal Target 711B gave .588 to 1.004 inch groups, and Federal Gold Medal Ultra Match UM-1 produced .358 to .520 inch groups. The UM-1 is no longer manufactured, but there is still some available on dealer's shelves. Winchester Supreme Match gave .665 to .950 inches. CCI Green Tag produced a .318 group on the "three of hearts."

I was able to locate some more of the Remington distributed Eley in a local shop to further test the Anschutz appetite for the Eley brand of ammunition. Four separate groups were fired from each box, and this lot of Remington/Eley Target gave .560 to .716 inch groups at 55 yards.

The Remington/Eley Club Extra, sometimes referred to as "Orange Box" produced .281 to .607 inch groups, and the Remington/Eley Match EPS at $8.00/box gave .178 to .560 inch groups. That .560 had four of the five rounds in .358 inches, so if the range is 55 yards or so, the EPS is definitely a keeper....if you are willing to pay twice the price of the Eley Target.

Limited testing at 100 yards gave the nod to the Remington/Eley Target. This ammunition outshot its more expensive brethern, the Eley Club Extra and the Eley EPS by producing .537 to 1.119 inch groups. Both the EPS and the Club Extra impacted a couple of inches lower than the Eley Target indicating lower velocity. At 55 yards all three types were striking the same point.

I had ordered some Lapua Match ammunition to try, but unfortunately it never arrived in time to be included in

Continued on page 29

The Anschutz 64 MPR can deliver one hole groups at 55 yards if the shooter does everything right.

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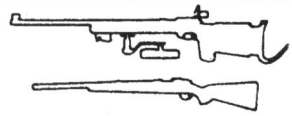

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Anschutzing The Blue "Borregos"

Continued from page 27

the testing for this article.

However, Lapua products are well noted for excellence, so I expect good results from that ammunition.

With the Anschutz sighted to hit dead on at 55 yards, the bullets impacted 6.5 to 7 inches low at 100 yards. I quickly found the need for click adjustable target turrets on the old Leupold 10X, but that will come later.

The .22 rimfire is probably the most versatile cartridge in use today, and it certainly is the most popular. There are vast numbers of brands and types of .22 rimfire ammunition available, when one considers its worldwide scope. There is a type of .22 ammunition for every conceivable purpose, from Olympic match shooting to plinking to hunting small game. It has such an immense following among the population, I simply cannot imagine a firearms aficionado without a .22 rimfire.....it would be a rarity.

The .22 Short has the distinction of being the oldest American cartridge, dating back to 1857 and developed by Smith & Wesson. It is normally loaded with a 29 grain bullet. The .22 Long, its origins dating back to 1871, was introduced sixteen years prior to the 1887 appearance of the .22 Long Rifle. The .22 Long Rifle uses the same case as the Long at .595 inches in length, but the Long uses the 29 grain bullet....the same weight as used in the .22 Short. The .22 Long Rifle usually sports a 40 grain lead bullet.

Nominal overall length of the .22 Long Rifle will run .975 inches or so, but after measuring five different types of Long Rifles, I found the overall length varies from .961 to .997, with .970 for the Remington/Eley Target ammunition that shoots so well in the 64 MPR. The variance in length may be caused by variations in the lead bullet or different rim thicknesses, and some match shooters will sort their rimfire ammo by using a device called a "rimfire thickness gage," in conjuction with their calipers, to sort the ammo into batches. Since the .22 rimfire headspaces on the rim, any variation in thickness will change the bullet's position in the chamber. This will in turn affect pressure and bullet launch, downrange. Another variable in rim thickness may be minute variations in primer compound. Each may affect the way the bullet flys and strikes the target, so if one is really serious, rim thickness sorting may be for you.

Finding silhouette targets is only a mouse click away at www.raystargets.netfirms.com if you have internet access, and these smallbore figures are well worth your consideration. Manufactured from cast ductile iron, the bases are ground flat, with the weight over the base to provide for stability. Added material at the junction of the base and legs provides added strength and durability, especially for the chickens, as they are struck at forty yards, with greater velocity than the other figures. Ray's targets come painted in a red oxide primer coat.

Each figure has the words "NRA APPROVED .22 LR" molded on the face of the body in raised relief. That means the silhouettes are fully approved for matches by the National Rifle Association. With a limited lifetime guarantee on the material and any manufacturing defects under normal use, with standard velocity ammunition, Ray's Silhouette Targets are worth considering.

They are available by the piece or in complete sets of twenty animals, and I purchased a complete set for informal silhouette practice. These are great for shooting enjoyment and honing offhand skills, plus they can be used for the promotion of the shooting sports, by providing a "silhouette safari" for youngsters. Shooting club members should get a bunch of these and host rimfire silhouette matches....or offer a training/shooting seminar to the youth in their area. Use some of these targets to provide that most important shooting ingredient.....fun!

When consideration is given to how long Anschutz has been in the business

Continued on next page

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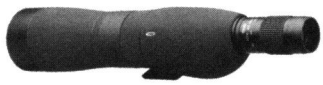

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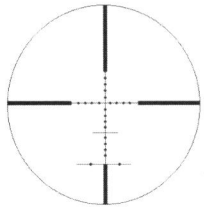

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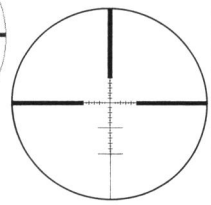
MP - 8



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Anschutzing The Blue "Borregos"

Continued

of manufacturing target rifles, a shooter has come to expect extremely high quality and accuracy from this company. Way back in 1856, Julius Gottfried Anschutz and spouse Luise founded the original company, in Mehlis, Germany. In 1896, the small Anschutz work shop was moved to its first official factory building, and at that time, the company employed 76 workers. When Julius died in 1901, his sons Fritz and Otto continued the business, and by 1909 the growing company had 175 employees. Growth continued, as by 1935 Anschutz employed 550 people. In 1945, the company was shut down and dismantled.

In 1950, the company began anew in Ulm, Germany. Manufacturing Flobert and target rifles, they began to grow again, and by 1972 with the monumental success of the Anschutz Match rifle, the company adopted the slogan, "Anschutz Makes Champions." Those words are still valid today.

The fifth generation of the family continues with Jochen Anschutz steering the company towards the future. With their tradition of accuracy, use of research and development, utilization of new ideas, and employment of modern technology, Anschutz continues to deliver some of the most accurate rifles to shooters across the world.

But, those blue "borregos" are waiting....all in a row....waiting .....crack! Clink! One hundred yards downrange and standing, a five and a half inch ram, crosshairs wavering, settling....crack! Clink! Another blue ram bites the turf. The clock is ticking. Do it five times, then stand them up again....five more times. Score ten for the Anschutz 64 MPR.....perfection....if you can do it.....that's "Anschutzing." And by the way.....I need lots of practice on those "borregos." Hitting them can be a genuine challenge, and....that 25 inch fat barrel sure is quiet.

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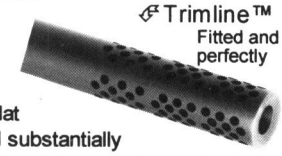

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300 Win.	61%	81%
7mm Rem.	63%	78%
30/06 Spr.	54%	69%
270 Win.	57%	72%
6mm Rem.	63%	78%
243 Win.	58%	73%
22/250 Rem.	68%	83%
223 Rem.	67%	82%

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The 2003 ROCKY MOUNTAIN Palma Matches

BY RANDOLPH CONSTANTINE

Before 2002, I had shot in every one of the fifteen Rocky Mountain Palma Matches (RMPM) that had been held. In 2002, I was not able to go the 16th RMPM because of a large (70,000+ acre) forest fire that was near my house. This year, things were dry in southwestern Colorado where I live, but nowhere near as bad as last year. With no fires active or threatening, I was free to go to the 17th RMPM, which is my favorite match.

It may have been dry in SW Colorado, but only a couple of weeks before the RMPM, they had had some pretty good rains around the NRA Whittington Center and Raton, NM, where the RMPM are held. It was green and beautiful there. And during the matches, the weather was perfect except for a sprinkle or two in the afternoon. The conditions (meaning the winds) varied from benign to chalenging, as they usually do at the Whittington Center.

The RMPM comprise five days of shooting with every day featuring some shooting at true Long-range—distances greater than 600 yards. The schedule might seem a little odd at first: five days of matches with the first day's shooting being on a Tuesday, and the last day being a Saturday. This schedule shift was made a few years ago to allow the shooters from as far away as California to be able to drive home in time to get to work on the following Monday without having to drive all night. Before this schedule shift, the last match (a four-person Palma team match on Sunday) made the travel schedule a little tight for some people.

The Palma match, for anybody who doesn't know, consists of 15 shots at each of three distances, 800, 900, and 1000 yards, all at what the NRA calls the LR target. The sizes of the scoring rings on this target are fairly generous, with a 20 inch (diameter) 10 ring, a 30 inch 9 ring and a 44 inch 8 ring. The 7 ring is 60 inches in diameter, and a hit anywhere on the 6 foot square target frame is worth a 6. What makes it a little more challenging is that the rifles used must either be a Service rifle or must be chambered for the "unmodified" 308 Winchester cartridge. Also, except for F class, all rifles have to have metallic sights. For a true Palma rifle, telescopic sights are not allowed.

The schedule for the five days of the RMPM gives everybody a chance to get their rifles' zeroes refined before the really important matches begin. I'll give a brief outline of the schedule and

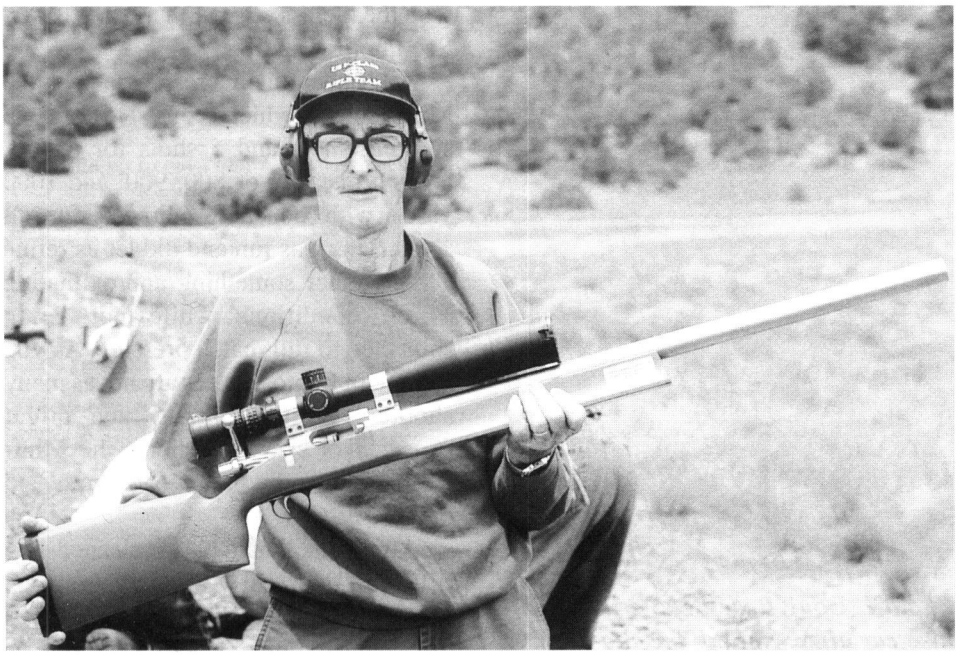

Photo 2. J. J. Conway, winner of the F-Class section of the Commonwealth Match and the inspiration for the Green Banana Trophy.

Continued on next page

The 2003 Rocky Mountain Palma Matches

Continued

fill in the details as I describe each match. Tuesday starts out with the Commonwealth Match in the morning, and then a "Mini-Palma" in the afternoon. Neither of these matches is part of the big aggregate, and the Mini-Palma isn't really scored and tabulated; it is just a sort of semi-formal squadded practice. The three days of Wednesday, Thursday and Friday all have the same schedule: a Palma match in the morning, a lunch break and then a 1000-yard, 20-shot individual or team match in the afternoon. And lastly, on Saturday, there is a Palma team match for four-person teams.

THE COMMONWEALTH MATCH

The Commonwealth Match is something quite different from the way we are used to shooting in Highpower matches here in USA. The way we are used to shooting is with only one shooter on a firing point who has exclusive use of that firing point for a block of time in which he can fire all of his shots as fast or as slowly as he wants to. In the British Commonwealth, this is called "string" shooting.

In the Commonwealth Match, things are done differently. There are three shooters on a single firing point, which in Commonwealth parlance is called "the mound". These three shooters take turns firing in a rotation with the rightmost shooter firing first, then the middle shooter shoots, with the leftmost shooter shooting third before the rightmost shooter gets to shoot again. The shooters also score one another in rotation such that each shooter shoots, then scores, and then gets to relax before it is his turn to shoot again. Of course, what the shooter had better be doing during that "relaxation" period is watching the wind.

There is a small problem with this kind of shooting: namely, that everybody is wearing all kinds of hearing protection, so it is hard to hear the calls of the scores for individual shots. In fact it is sometimes hard to tell who of the three just shot. For these reasons, it is easy to shoot out of turn, which two of the three shooters on my point did. I won't say which two. One of them might have been me.

Each of the shooters on my firing point, including me, lost just one too many points to make the cut for the shoot-off at 800 yards. The way this match goes is this: We shoot two convertible sighters and seven shots for record at 300 yards on the standard MR-63 target, which is the half-size reduction of the MR-1 target that is the standard for use at 600 yards. Then we shoot two convertible sighters and seven shots for record at 600 yards. The scores are added up and those people whose numerical scores equal one of the top three numerical scores get to shoot in the shoot-off. For determining who gets into the shoot-off, the X counts are ignored.

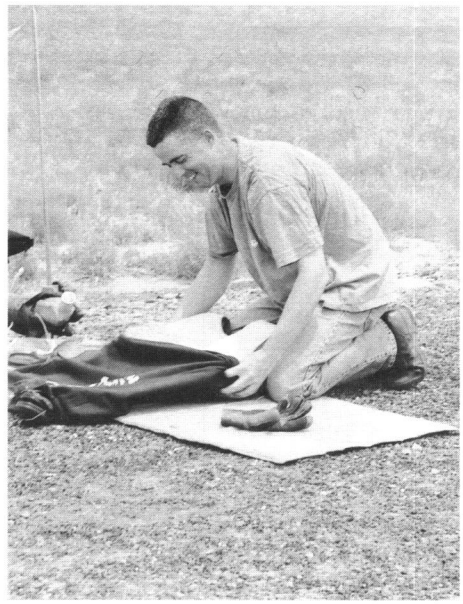

Photo 1. Doug Beach gathering up his gear after winning the shoot-off of the Palma Rifle class of the Commonwealth Match.

The shoot-off is conducted the way they used to be done when Carlos Hathcock won the Wimbledon match: The shooters get two minutes for two sighters and then, after a little wait to give the wind a chance to change, they are given one minute in which to fire one (record) shot. The targets are not pulled and marked as soon as the record shot is fired. Instead, all targets are left up until the time has expired. All targets are then pulled and marked but are kept down in the pits until called for by score. The Match Director then calls for the pits to display any targets scoring a miss. Anyone unfortunate enough to see his target come up has to pull his equipment off the line. This is then repeated with calls for targets scoring a 6, then 7, 8, 9, 10, and X. Only those people whose targets scored the highest value get to stay on the line for another shot; but if there is only one person who had a shot of the highest value, he's the winner.

This year the winner of the Palma rifle class was Doug Beach, who fired two Xs after the sighters. J. J. Conway won the F class, also with a string of Xs. See Photos 1 and 2.

After the lunch break, we had the Mini-Palma, which consisted of two sighting shots and 5 shots for record, at each distance of 800, 900, and 1000 yards with coaching allowed for all shots. This was fun and did let us refine zeroes under something approximating match conditions while not being subjected to full match pressure. As you can see in Photo 3, there are not as many shooters on the line as you might expect. Not everyone shoots the Mini-Palma, and some had not yet gotten to the NRAWC.

After this "match", I cleaned my rifle, and then, early the next morning, before the opening ceremony, I went to the sight-in range where I fired four

Continued on page 34

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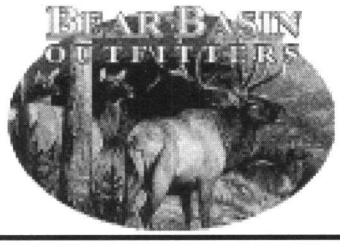

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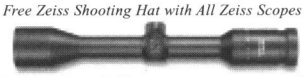

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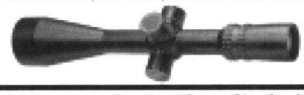

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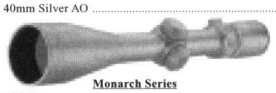

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The 2003 Rocky Mountain Palma Matches

Continued

shots into the berm to refoul the barrel before beginning to shoot the first of the "real" Palma matches. I think it helped since my first sighters were on for elevation.

THE PALMA MATCHES

When I went out on the range on Wednesday morning for the first Palma match, things seemed different in a way that I could not quite put my finger on at first. After a while, I realized that the number of competitors seemed smaller than usual and that many familiar faces were not there. Then it dawned on me that Mid Tompkins and Nancy Gallagher-Tompkins and many of the members of the Palma team who usually shoot the RMPM had already gone to Britain to shoot in Scotland and elsewhere before the Imperial "meeting" at Bisley, England where the International Palma Team Championship was to be held, and at which the U.S. shooters did very well, as was recounted in two articles in the November, 2003 issue of **PS**.

Wednesday starts with an opening ceremony of the raising of the flags of all the countries of match participants and a reading of the names of any shooters who have left these earthly ranges followed by a moment of silence. Unfortunately for me, this year one of the names read was that of an old friend, Stanley Bigham, a former Palma team member. After some announcements, it was out to the 800 yard line or to the pits.

Photo 3. Typical scene on the firing line, taken during the Mini-Palma when there were not many shooters on the line. The three shooters closest to the camera are F-Class shooters with the closest one being J. J. Conway.

This year, I again worked as a line officer/radio operator, and so got to stay on the line all the time. When I was not shooting or scoring, I shared those duties with my two firing point mates, John Donner and John Gaines.

The rifle I used this year was the rifle I had used to such good effect in the Spirit of America match the previous September, a Palma rifle I had built on an AMT action with a Jewell trigger and a 5R Obermeyer barrel with a 1 in 11" twist, all bedded into a McMillan stock. However, it was not quite the same as it was when I shot that match. During the winter I gone on a rampage of milling and drilling, cutting slots in the stock and making Swiss cheese out of noncritical metal parts, trying to get the weight of the rifle down to the 14 pounds, 5 ounces (6.5 kilograms) required for International competition and for use in the Spirit of America match. When I started on this rifle-weight-reduction program, the rifle weighed over 17 pounds, which is what it weighed when I shot it in the "Heavy rifle" division of last year's Spirit of America match.

Before the RMPM, I had managed to get it down to about 15 pounds, 12 ounces, but could not see how I was going to make it much lighter without turning down the barrel. I shot it at this weight in the RMPM and at Camp Perry and did have to turn down the barrel after Camp Perry.

My load is pretty standard for Palma work: 47.0 grains of Hodgdon's VarGet™ (weighed, never just thrown from a measure) behind a moly-coated 155 grain Berger VLD bullet. This load is in 92 Palma cases with RWS primers, which are very mild. This load is safe in my rifle, but may not be in another rifle.

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brand of primer. This load is not over the edge, but it is listed as maximum in *Hodgdon's 2004 Annual [Reloading] Manual*.

For the middle of June in northern New Mexico, the weather was a little different for the first Palma match, with a dark overcast rather than the clear sunshine we normally expected, so there wasn't any mirage to be seen. We would all have to depend on the flags. Shooting was supposed to start at 0800, but was delayed somewhat in order to adjust the squadding to fill in the holes caused by a few no-shows.

I was on relay 2 and got to start shooting at about 0900. For the first stage at 800 yards, we had 22 minutes for "an unlimited number of practice shots" and our 15 shots for record. I did my usual thing of shooting 5 "practice" shots to warm up both me and the rifle and get the barrel properly fouled before going for record. There was just a faint breeze from the left that was barely lifting the flags off the poles that pushed two of my "practice" shots out to the right into the 9 ring. When I went for record, I started off great with two Xs and then two 10s and another X. The next shot got pushed out to the right by the wind, only about an inch out but still a 9. OK, that happens. I followed it with another 10, and then with a bad shot that happened when my old eyes blurred as the rifle went off. Thank goodness, at least the target went down. I had no idea where it went. The target came up with a 7 out a 9:00. That was my only bad shot of that stage. I didn't do anything stupid after that and finished out the stage with five 10s and two Xs for a 146-5X. This was not a good score at 800 yards in those conditions. Bunches of people shot perfect 150s, while many more put up 149s. The top score at 800 yards was a 150-14X shot by Jon Rhynard.

When we moved back to the 900 yard line, the conditions stayed benign, with the wind seldom getting up to 4 mph, and never more than that while I shot. For once I shot like I knew what I was doing and put up a 149-9X, which happened to be the highest score in the

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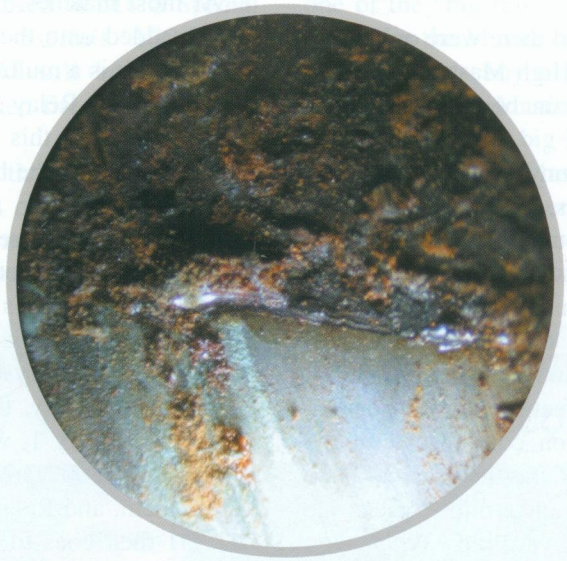
RUST



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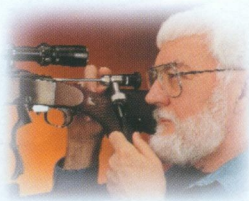

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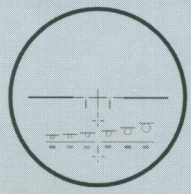

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The 2003 Rocky Mountain Palma Matches

Continued

Master class. And there were only three 150s, all in the High Master class with Jon Rhynard again being high with a 150-8X.

There is a funny thing that happens in Palma matches, and to a lesser extent in across-the-course matches. It is a matter of how which relay a person starts out on can to some extent determine what kind of conditions he will have at the various yard lines, which can of course affect his score. The relay a person starts on combines with the number of relays and the scheme of pit duty rotation to determine when one shoots at each yardline. When you factor in the simple fact that the wind conditions are usually the calmest early in the morning and then get progressively worse as the day warms up until about 3:00 or 4:00 in the afternoon when they begin to calm down again, it is easy to see that those who shoot early are likely to get better conditions (and hence higher scores) than those who shoot later.

At most matches, the High Masters are squadded onto the Relay 1 (on the first day if it is a multi-day match) with the Masters on Relay 2, and so on. For Palma matches, this means that the High Masters get the best conditions at 800 yards. But for a match that is squadded into three relays, such as the RMPM, this does not mean that they get the best conditions at 900 and 1000, because Relay 1 shoots last at 900 yards and second at 1000 yards. Here's why.

On the first day, the High Masters start out on relay 1, which, obviously, fires first at 800 yards while Relay 2 scores them, and Relay 3 is in the pits. Relay 1 then goes to the pits immediately after firing and pulls the targets for two relays of firing at 800 yards and then for Relay-2's firing at 900 yards. Since things are arranged so that no relay fires as soon as they get back out of the pits, Relay 1 shoots last at 900 yards and then second at 1000. This pit rotation schedule also means that everybody gets to shoot first at some yard-line and last at another. Relay 2 shoots second at 800, first at 900, and then last at 1000. Relay 3 obviously shoots third (last) at 800 yards, but second at 900 yards and first (!) at 1000. This tends to even things out somewhat, but most people agree that shooting first at 1000 yards have a slight advantage that more than compensates for having to shoot last at 800 and second at 900. Since I was on relay 2, I got to shoot first at 900 yards. But it also meant that I got to shoot last at 1000 yards.

Back at the 1000 yard-line, nobody shot a 150. The wind was being very fickle, changing quickly in both speed and direction just to add a little more challenge. I lost points out both sides being pushed out to the left by gusts and "sucked" out to the right by let-offs. I had no 9s out to the right, but those big let-offs got me for three 8s out that side. My 139-3X put me just above the middle of the Master class at this

distance.

In almost all the Palma matches I know of, the scores of the individual stages are not even reported, and no awards are given for the top scores in those individual stages; the only thing that matters is a person's aggregate score for all three yard-lines. The same is almost true of the RMPM, but because there are three Palma matches, and to add to the interest of the competitors, the RMPM sponsors do give awards for the *aggregates* at each yard-line. This, I think, is a neat idea. A study of the scores at the various yard-lines, can tell a person what he needs to work on.

Jon Rhynard did some fine shooting in those tricky conditions and dropped only one point all day (that one at 1000 yards) to win the first day's Palma match with a 449-28X. Bob Jones was second with a 444-23X, while Wyatt Tubb took third and High Junior with a 443-22X. Doug Beach won the Master Class with a 440-17X, where my 434-17X was good for only 8th out of the 24 Masters. Doug Abbott took first in the combined Expert-Marksman class with a 421-5X.

The combined Expert-Marksman class?! Yes, that is what it was. What's worse is that there were only nine (9) folks in that class: 8 Experts and only one Marksman. No Sharpshooters! What's going on here? I was just a Sharpshooter when I shot in the first RMPM sixteen years ago. Are people more interested these days in getting duded up and doing Cowboy action shooting as opposed to shooting in one of the most challenging matches there is? Are they afraid of trying it because it might be hard?

Pardon the editorializing. I know I should leave that to our esteemed editor, but you don't get to be good with a rifle by shooting at plates or silhouettes with a single-action revolver, just like you don't learn to shoot Highpower in the wind by shooting Smallbore indoors. I know that all the missing Marksmen, Sharpshooters, and Experts had not gone to England, but where were they?

I can guess that some of the decline in attendance at the RMPM may be due to the ascendance of the M16/AR15 for Service Rifle shooting. Back when the M14/M1A was the most-used Service rifle, many Service shooters showed up and shot it. Ammunition loaded with the 173 grain bullet used in M118 Special Ball and later, Sierra's 175 grain MatchKing would still be supersonic at 1000 yards when fired from an M14 or M1A.

I wonder if the RMPM has not perhaps gotten a certain cachet to the effect that it is a match "only for the big boys", which is something I don't think is true even though it is possible that my articles about the RMPM might have contributed to that, but I certainly hope not. I know I don't think of myself as one of the "big boys". I don't think of anyone in the Master class as being one of the big boys, any more than I think of all of the High Masters as being "big boys". To me, the big boys are a small subset of the High Masters, current and former Palma team members and maybe

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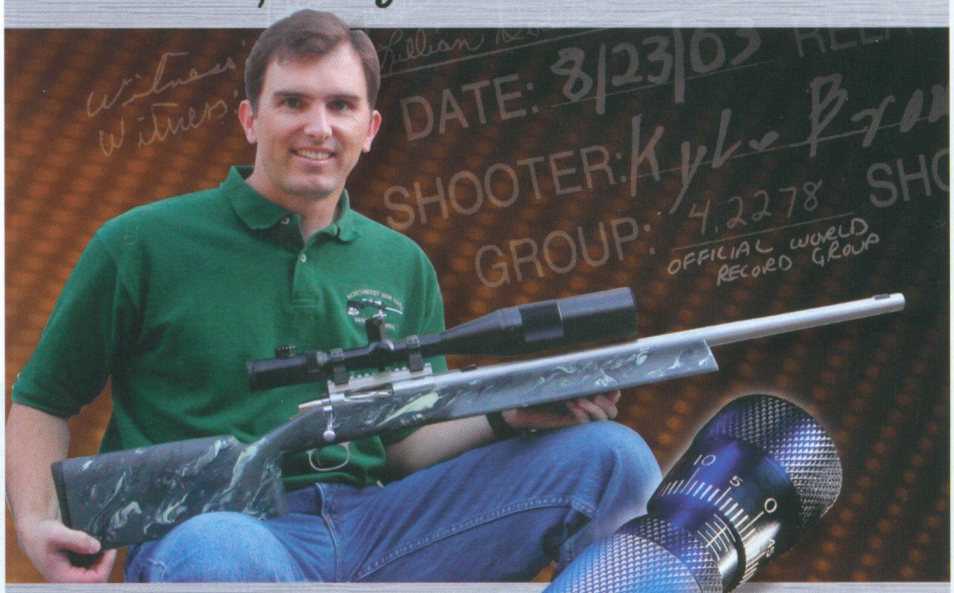

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The 2003 Rocky Mountain Palma Matches

Continued

a few others, but just a few.

Sure, I doubt that anybody in Sharpshooter class is going to come to the RMPM for his first Palma match ever and win the whole shebang. But that is true of any match, Palma or not, at which there are even a few Masters or High Masters

What I do know is that there are not all that many 1000-yard ranges around, and not all that many Palma matches scheduled at the ones that do exist. And I also know that the only way you can learn this game is to come out and play it. I think it was Winston Churchill who said, "The only way to learn the game is to play for more than you can afford to lose." I think he was talking about poker, but that does not apply to Highpower and Palma shooting where all anyone is likely to "lose" is his entry fee. Besides, what you will learn will be worth far more than any entry fee. I just hope that more people will come out and give Palma shooting a try. And I think the RMPM at the NRA Whittington Center is a very good place to do that. I hope I'll see more Marksmen and Sharpshooters at the RMPM next year.

PALMA DAY 2, THURSDAY

On the second day's Palma match, it was my turn to shoot on relay 1, and that day we started shooting at 0730. When we started shooting, it was dead calm. The flags were hanging straight down and what little mirage there was going straight up. This was a novel experience and really gave everybody a chance to check their no-wind zeroes. I paid close attention to making my shots as good as I could and shot a 150-10X at 800 yards. If it stayed this calm, it was truly going to be a holding contest. Jon Rhynard shot a 150-11X and G. David Tubb had a 150-13X.

About the time I finished up at 800 yards, the air had just begun to move, barely lifting the flags away from their poles. By the time I got to shoot at 900 yards (last), the wind had picked up to about 4 to 5 mph, coming from 4:00 to maybe 5:30. I paid a lot of attention to making sure I was not caught by let-offs and proceeded to lose the 3 points I lost to gusts: a 9 on my first shot for record, and later, an 8 on shot number 7. I knew that in those relatively nice conditions I was not likely to win much of anything by dropping 3 points at 900. I had managed to hit in the X ring a few times to end up with a 147-8X. G. David Tubb was also high man at this yard line with a 150-8X.

Since I was on relay 1, I got to shoot next to last at 1000 yards. By that time, the wind had picked up enough to be, shall we say, interesting—not howling, just blowing about 4 to 6 mph most of the time with gusts up to about 8 mph. The sequence of my individual shot scores looks almost like something from a random number generator. A 10, then an 8, then some 10s and Xs, a 9, then a 10 and an 8 on a gust, and then a

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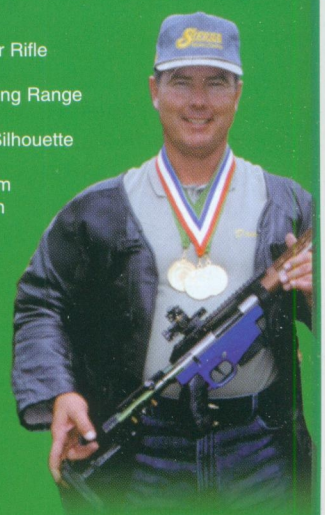

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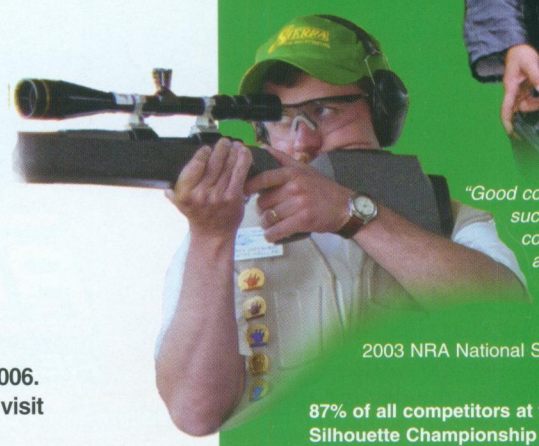

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7 on a bigger gust; but the end result was not too bad: a 141-3X. I was pretty happy with my aggregate of 438-21, which is a High Master score; but as I expected, it did not get me in the money, not even in the Master class. The high score at 1000 yards was a 150-8X put up by Wyatt Tubb, G. David's son. This was the only 150 shot at 1000 yards, except, of course, for the F class shooters, who seem to do it all the time.

Thursday's Palma match was won by G. David Tubb with a total of 448-31X. His son Wyatt took second with a 448-23X, and Jon Rhynard was third with a 447-27X, James Fox, who was to do so well at Camp Perry, took First Master with a 442-16X. My 438-21X was good for only 5th in the Master class—close, but no cigar. Gene Klein easily took First in the combined Expert-Marksman class with a 437-17X. Most everybody agreed it was a very good day.

PALMA DAY 3, FRIDAY

Thursday was fun. I hoped things would go as well this day too; but I was on relay 3, so it was not dead calm when I got to shoot at 800 yards. The wind wasn't all that strong, coming out of 3:00 to 4:30 at about 4 to 6 mph; and it was fairly steady. I decided to see if I could stay on the upwind side of the X ring when the wind speed was at its lowest. I dropped only two points, so the strategy worked pretty well. My third shot got pushed just out at 9:00 by a gust. My 13th shot was called a 10 at 7:30, but was helped out by a pickup. The result was a 148-6X, not close to what I had hoped. The high score at 800 yards was a perfect 150-15X shot by G. David Tubb. The closest anybody else came to that were two other High Masters and one Master, who all shot 12X cleans.

It seemed that the conditions had not changed very much when I moved back to the 900 yard line, but my strategy did not work as well there because the wind went from steady with sporadic gusts to steady with sporadic let-offs. For that I needed to be on the downwind side of the X ring when the wind was steady. I had three 9s just out between 2:00 and 4:00, and then on my 15th shot, a big let-off gave me a mid ring 8 right on the midline at 3:00. I felt that my 145-5X was acceptable for 900 yards in those conditions. The high score at 900 yards was a 150-9X shot by John Donner, one of my point mates.

After struggling to post semi-acceptable scores at 800 and 900 yards, the conditions gave me something I could not figure out at 1000 yards, whereupon I, figuratively speaking, fell on my face. A storm cell came by, giving us very changeable winds, and spit a little rain on us. I seem to remember a reversal or two in there somewhere. I am writing this from memory because I did not record anything during my shooting and did not write any follow-up notes after I was finished shooting because I was so disgusted. So, if somebody out there remembers things differently and thinks I have gotten something wrong, please attribute it to the failing memory of a

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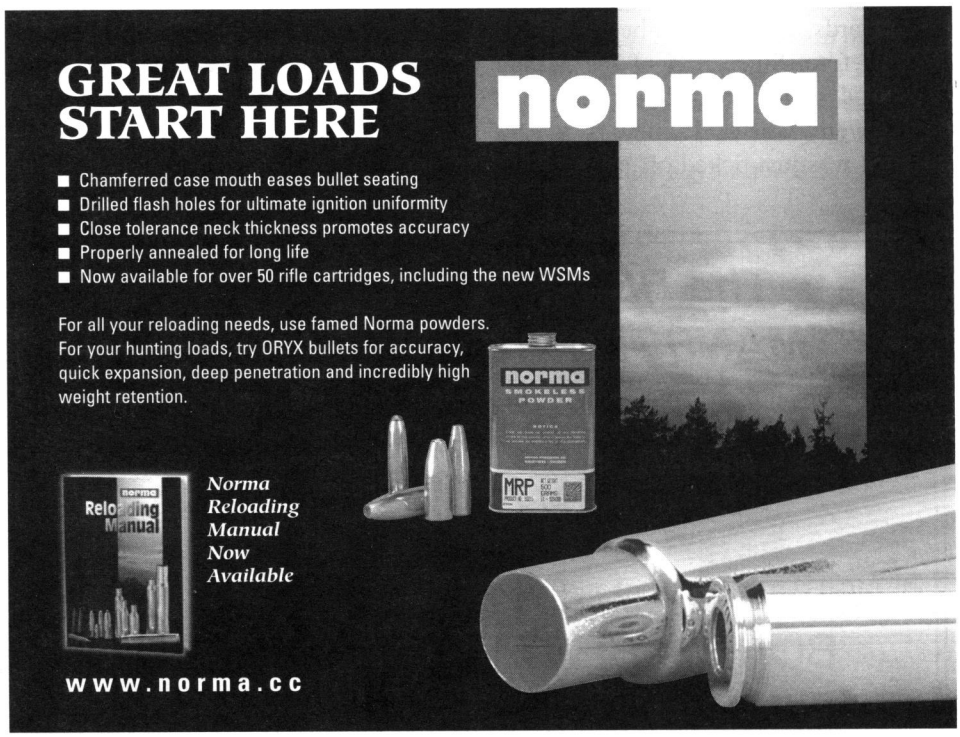

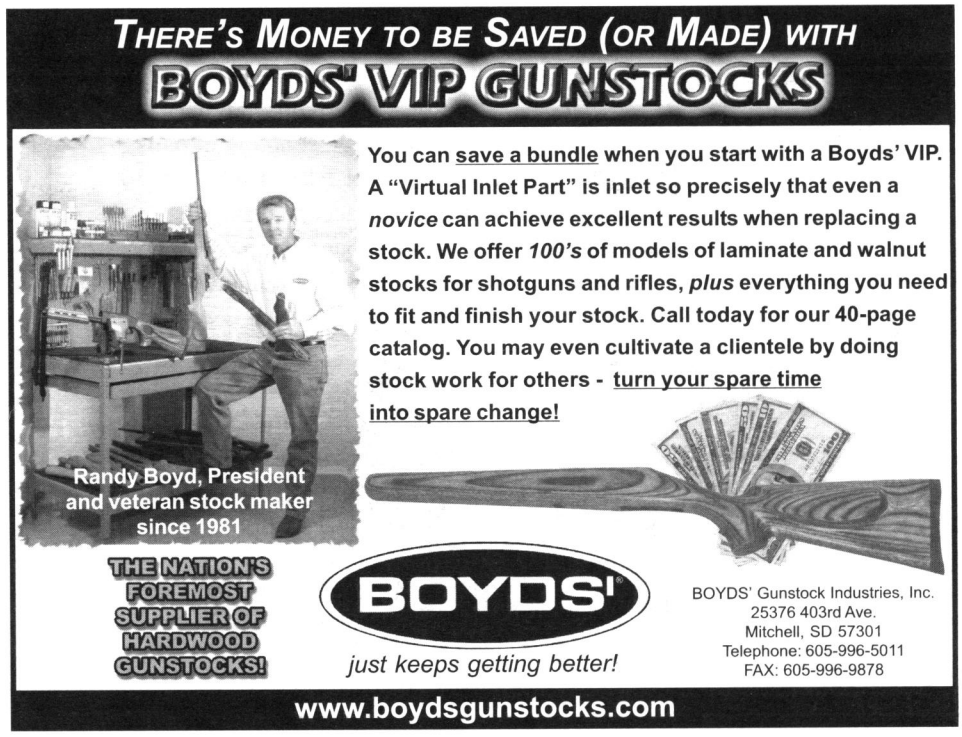

The 2003 Rocky Mountain Palma Matches

Continued

first-year geezer (I was 65 when I shot this).

In any event, when I got through in that mess, my score card read 136-0X. It may have been that I just got the bad luck relay. It does happen now and then that only one relay will get really bad conditions at one yard line—usually at 1000 yards, and I have been on that relay before. Since half of the Master class had scores about like mine—and some were worse, I knew I wasn't alone; I was just ticked off at not being able to do better. Somehow, Bob Jones managed to shoot a 150-6X at 1000 yards, but that was the only 150 shot at that distance.

My score that day of 429-11X is a Master-class score, but it sure did not make me happy. At 94%, the threshold for a Master-class Palma score is 423. My problem here is that for the past couple of years, I have been shooting very close to the High Master threshold of 97%. To average 97% for three Palma matches, you need an aggregate score of 1310. At this years RMPM, my aggregate score was a 1301-49X. That's just one more point at each yard line in each match.

Tom Luhman won the Friday Palma match with a fine 446-23X, with Matt Labonte from down in the Master class right on his heels with a 446-18X. Labonte's score was, of course, good for First Master. On Friday, there were nowhere near as many scores of 440 and above as there were on Thursday. Gene Klein put up a 441-14X to take First Expert in the Friday match and to lock in First Expert in the three-day aggregate because he had taken Third Expert on Wednesday and First Expert on Thursday.

The other aggregate winners were not as obvious because the top shooters in the other classes seemed to have been spreading the awards around over the three days. The computer crunched the numbers and the result was that the winner of the 17th Rocky Mountain Palma Match was Jon Rhynard with a total of 1337-75X (Photo 4). G. David Tubb was second with a 1331-88X. David's son Wyatt was third with a 1331-70X. Jared Johnson got the First Master award for a 1320-66X. Comparatively speaking, I guess my 1301-49X was not too bad; it put me at 7th in the 24 member Master class.

F CLASS

In the F class world, they do things differently. In F class, the shooters may use a benchrest and bags or a bipod, but have to lie on the ground. They don't get to sit at a bench. They also get to shoot a rifle that is chambered for any cartridge they desire as long as the bullet diameter is less than 0.350", and they get to use telescopic sights. The major restriction is that the rifle may not have a muzzle brake. As you might guess, they shoot very high scores. This year there were 18 F class shooters.

In the first Palma match on Wednesday, four members of the F class shot perfect 450s. One of those was my old friend, John van Marter, who shot a 450-33X for his first ever 450. Shawn Ahrens won Wednesday's F class match with a 450-39X. On Thursday, there was only one 450, a 450-34X shot by Skip Talbot. On Friday, Shawn Ahrens came back to win again with the only 450 of that day, a 450-37X. Since Mr. Ahrens dropped only one point on Thursday, to come in second that

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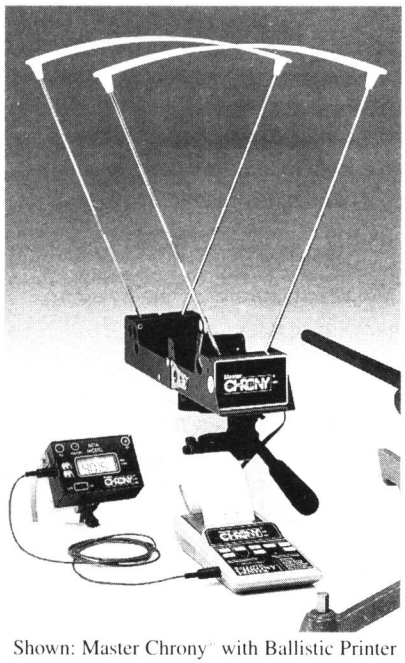
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day, he won the *Precision Shooting* Magazine Aggregate with a score of 1349-116X. John Brewer and Skip Talbot were tied for second and third at 1347-74X, but the tie-breaking rules gave second to Brewer.

Here are a couple of items of interest about some things in F class. Shawn Ahrens, the winner, was shooting a rifle built by Speedy Gonzalez chambered for the 6.5-284 cartridge. Not much new there. But what is notable about it is that he picked up the rifle from Speedy on his way to the RMPM, and did his barrel "break-in" and sighting in on Tuesday. That's not just notable; that's amazing. John Brewer did almost the same thing, picking up his rifle from Speedy and then going to visit John van Marter for barrel break-in and sight-in. Brewer then loaded ammo for himself and for Shawn Ahrens.

John van Marter was shooting a rifle chambered for a wildcat of his design that he calls the 6.5 Stumpy. This is a short thing with a very long neck that he makes from Remington SAUM (Short Action Ultra-Mag) cases. He says he thinks of it as a kind of 6 BR on steroids. I felt I had to put this note about his cartridge here to incite him to write an article about it. It worked very well for him.

THE AFTERNOON MATCHES

The matches held each afternoon after one of the three Palma matches were a combination of team matches and individual matches at 1000 yards. A shooter could get on a four-person team or could shoot in an individual match with either any rifle with iron sights (this includes Palma rifle) or with any rifle with any sights. For various reasons, one being that I was a little low on energy because of a combination of allergies and a recent summer cold, I chose not to shoot any of the afternoon matches.

THE GREEN BANANA TROPHY

Most awards ceremonies are pretty similar to one another. Since I have already told you who the winners were, why go on about the awards ceremony? Well, the one at this year's RMPM had one feature that was different. Larry Bartholeme and John van Marter had come up with a trophy for the F Class champion at the RMPM that is quite handsome, a walnut base topped with a statue of a cowboy holding a lever action rifle. The trophy is named for J. J. Conway who was so instrumental in getting F Class competition going here in the United States and was donated by the U. S. F-Class Rifle Team that won the first World F-Class Championship in 2002.

While its formal name is "The J. J. Conway RMPM F-Class Championship Trophy", its informal name is "The Green Banana Trophy". This was done because of J. J.'s comments in his article in the March 2000 issue of ***PS*** in which he says that because of his advanced age (he was 75 at the time) he does not "buy green bananas any more." J. J. is now 79

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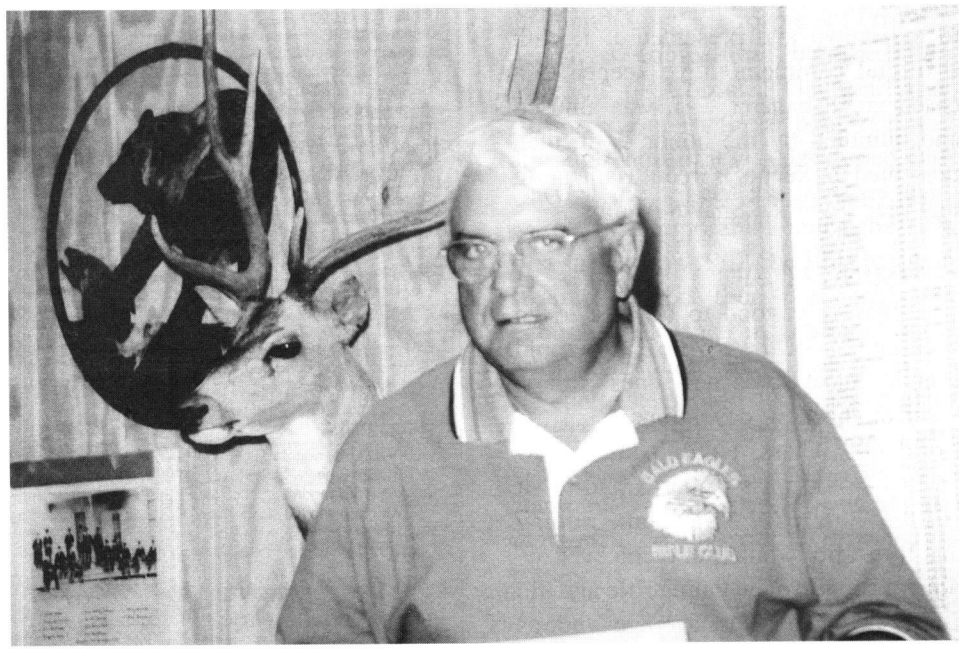

Photo 4. Jon Rhynard, the 2003 Rocky Mountain Palma Champion.

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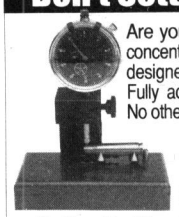

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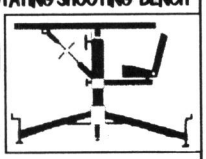

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The 2003 Rocky Mountain Palma Matches

Continued

years young; and although others have come on strong, he is still someone you have to beat if you want to win F-Class at the RMPM.

As is usual with such trophies, the winner of the trophy gets his name and the year engraved on a small brass plate that is affixed to the base of the trophy, but there is more. The winner also gets a "keeper" trophy to keep that is not the usual miniature of the big trophy. The keeper is instead a plaque that has on it a glass-fronted shadow box containing a green plastic banana.

John van Marter made a quite humorous presentation of the trophy to the crowd and presented J. J. with a special commemorative keeper of a cased green banana. J. J. was amused and humbled by the honor. John then presented a keeper Green Banana to this year's winner, Shawn Ahrens.

SUMMING IT UP

It was very good to be able to go back and shoot the RMPM, to see old friends, make some new ones, and to learn of the new developments in the world of F Class. I didn't know how much I would miss it until I had to sit out the 2002 RMPM at home hoping that forest fire would not come over the ridge. I shot my new Palma rifle and did a little better than just average—not as well as I would have liked to have done, but that's the way it goes in most competitive activities.

The biggest disappointment was in seeing so few shooters who were new to Palma shooting. I hope I'll see a lot more Sharpshooters and Marksmen out there next year.

Till next time,
Keep'em in the center
Lost Axe Ranch

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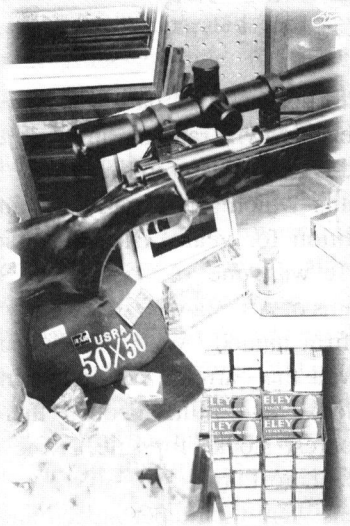

THIS "OLE BLUE" Ain' No Dawg

BY HOKE KERNS
Photos By Rod Collins

Down south the name, "Blue", virtually always applies to a blue tick hound dog. Blue may be a coon dog, deer dog, fox hound or just a lazy old porch dog. There have been hundreds of thousands of blue tick hounds named Blue.

The owner of a dog named Blue will usually refer to the animal affectionately as "Ole Blue" when bragging on him. "Blue" can be (and is) used to name dogs of either gender, but mostly male. Hound dog heaven is full of "Blues." Must be confusing to have so many with the same name. But this little piece is about a rifle, not a hound dog, that is known affectionately and respectfully as "Ole Blue" and there is not likely a rimfire benchrest shooter in the south, or elsewhere for that matter, who isn't familiar with that rifle and hasn't lost to it.

Surrounded by honors won and seemingly gaurding his ammunition supply beneath the counter, Ole Blue rests up for his next encounter with the rimfire benchrest community.

Ole Blue is a Suhl rifle owned, revered, prized, protected, maintained, and shot in all forms of rimfire benchrest competition by one Gary Mitchell of Cordele, Georgia. That rifle has one helluva pedigree and although most of it was developed with Gary at the trigger its pre-Gary days were also memorable. Since the rifle first surfaced in 1992 Ole Blue has won so much "wood" there is probably not enough wall space in a normal sized home to display it all.

The basics: Old Blue is just a plain old Model 150 Suhl made in East Germany like all the rest of them. A stamping on the barrel says it was manufactured in June, 1974. It has a five-digit serial number, 42XXX. There is nothing unusual about Ole Blue *except* it has a 1:19 twist bore! No one seems to know how or why this unusual twist was produced. Suhls have point cut barrels; was this one just an aberration? Most Suhls have a 1:16.5—1:17 twist bore. A year or so ago, intrigued by this 1:19 phenomenon, Gary Letnes of Mesa, Arizona asked Suhl owners everywhere to please send him their respective barrel twist rates and serial numbers. He found only "four or five" with 1:19 twist barrels and there was apparently no correlation between them and their respective serial numbers. How Ole

Continued on next page

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5. You order staples for your office by specific "lot number";
6. Your after shave is a blend of Kroil and Butch's Boreshine;
7. Your TV remote control was rebuilt by Arnold Jewell;
8. The buttons on your truck's radio have been replaced with "Target Knobs";
9. Your entire shirt wardrobe depicts all of the matches you have ever attended;
10. Your new brick BBQ grill more than slightly resembles a shooting bench;
11. Your front lawn is decorated with Wick's Wind Flags;
12. You have replaced the dining room chairs with shooting stools;
13. You replaced the cedar mulch in your wife's flower beds with empty .22 brass;
14. The furniture in your den was designed by Bill Meyers and built by Don Stith;
15. Placemats on your breakfast bar are recycled Eley baseball caps;
16. You call your wife "Rangemaster";
17. You spent more money on your stock's custom paint job than on painting your house;
18. You end the blessing before each meal with "Is additional time needed?";
19. There is a 10-minute "Protest Time" at the completion of each Honey Do task;
20. Everything you do is timed in 30-minute increments;
21. You have your wife convinced that all range fees and entry fees are tax deductible and you're working on the IRS;
22. Last year's Christmas shopping was completed from the Sinclair International catalog;
23. Your vanity license plates read "250-25x";
24. You pray for a price war between Hall, Turbo, Time and Swindlehurst;
25. You want to see Harry Deneen's picture on a box of Wheaties; and finally,
26. Never sell your rifle to buy ammo.

Bill Smith, Orange Park, FL

This "Ole Blue" Ain' No Dawg

Continued

Blue came into being with a 1:19 twist barrel is an as yet unsolved mystery. Whether that twist rate has anything to do with its remarkable record is also subject to debate.

Like all the other Suhls which have really dominated rimfire benchrest competition for years, Ole Blue had an inauspicious beginning. It was one of some 600 Suhls imported by Jimmy Williams of Atlanta who in the early 90's founded and operated a firm named "Williams Precision." Williams Precision removed the barreled actions from the original factory wood stocks and pillar bedded them in McMillan fiberglass benchrest stocks for sale to the then early developing rimfire benchrest crowd.

In most cases the barrels were then taper lapped and the rifles were test fired with various lots of what was then the premium rimfire ammunition, Eley BR Gold. Additional tuning for accuracy involved adjusting the torque on the action screws. Rimfire tuning barrel devices had not yet been

(Bottom photo) Gary Mitchell and his prized Suhl. (Top photo) Rod Collins just flat got tired of hauling Ole Blue's trophies outside to be photographed. This is a few of 'em.

discovered. Based on test firing results the rifles were separated into several different grades, Grade 10 being the best and most accurate. A rifle later to be named, "Ole Blue", was judged to be a Grade 10 Suhl.

Tim McWhorter, now of McWhorter Custom Rifles fame, was Jimmy Williams' primary riflesmith, although early in Williams Precision history Jimmy had sought and relied heavily on advice and direction from Bill Calfee. It was Tim's responsibility to bed the actions, lap the barrels, tune the rifles to a given lot of Eley BR Gold, grade the rifles and represent Williams Precision in rimfire benchrest competition. Ole Blue was processed just as all the other Suhls but early on it showed promise of stardom.

Tim was shooting in a big rimfire benchrest tournament in Virginia when veteran shooter/riflesmith, K. C. Young, approached him and told him he needed a good Suhl. K. C. was hot in pursuit of the BR-50 G-Line championship that year and he was afraid none of his rifles were good enough to get him over the hump.

When Tim returned to Atlanta he began looking in the Williams Precision inventory for a Suhl that would meet K. C.'s needs. A Suhl pillar bedded in a dark blue and black McMillan stock showed promise. Tim shot half a BR-50 target with it and it scored 2450. He asked a machinist there at Williams Precision to shoot the other half of the target; it, too, scored 2450. The rifle had shot a score of 4900 out of a possible 5000 with no tuner. Tim called K. C. to tell him he thought he had a rifle good enough to win the G-Line and K. C. told him to ship it to him with a case of the rifle's favorite lot of BR Gold.

Ole Blue was about to become a legend. With that rifle K. C. proceeded to win 15 straight BR-50 matches, the winning string finally being broken by a 2nd place finish in Springfield, Missouri. With that rifle he won the BR-50 G-Line championship in 1993.

Fast forward now to December, 1993. The place, the Crisp County Gun Club range in Cordele, Georgia. The event, the last BR-50 rimfire benchrest match of the year. The match director was Gary Mitchell and K. C. Young had driven down from his home in Mechanicsburg, Virginia for the event. Jack Jones of Albany, Georgia, the then regional director for BR-50, was on hand shooting his pet rifle, "Georgia Boy," a Suhl also pillar bedded for him by McWhorter in a red and black McMillan stock.

Jack had once told K. C. if he ever decided to sell that rifle he wanted to buy it. K. C. was later to tell this writer he had run out of the rifle's favorite ammunition and having been unable to buy more of the same lot he had decided to sell the rifle. So that day he told Jack the rifle was for sale. For Jack, it was one of those days all

Continued on next page

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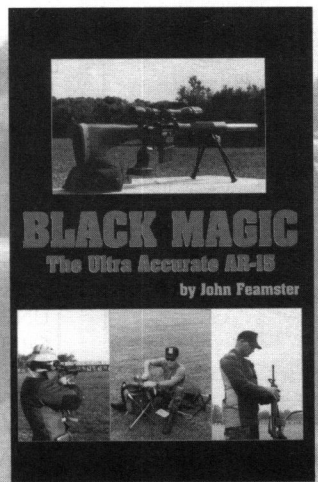

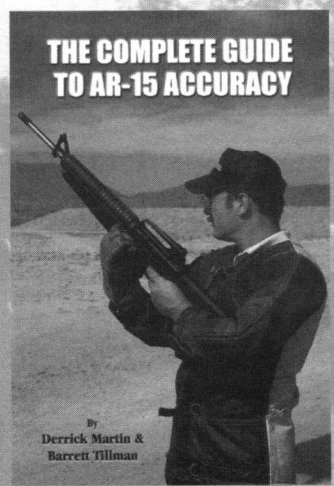

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This "Ole Blue" Ain' No Dawg

Continued

rimfire benchresters experience from time to time—nothing was going right. Frustrated with his shooting and vowing to give up rimfire benchrest competition forever, Jack declined to buy K. C.'s rifle. (He did quit the sport later, but quitting was really not imminent at the time.)

Gary Mitchell had a Suhl he had bought at a gun show and which he had Tim McWhorter re-stock and set up for him. It was good enough to be competitive and it had even gotten him into BR-50's 4000 Club. But, it was not a "killer." He heard K. C. might sell his Suhl so he approached him and asked about it. Getting an affirmative response from K. C. Gary told him "You caught me on a bad day. I want the rifle and I have the money."

Don't be misled; Ole Blue is a phenomenal rimfire rifle but it takes a good shooter to get the best out of it. It makes a good shooter better—and usually best.

For example, Pat Smith, Bradenton, Florida had experienced one of those bad days on March 2, 2002 at Georgia's Macon County Gun Club. Matches the next day were at the Crisp Area Gun Club, Gary Mitchell's home range. Feeling sorry for Pat, Gary offered her Ole Blue to shoot that day. Gary would shoot another rifle. Uh huh, you guessed it.

Pat and Ole Blue cleaned house that day, posting a 2040 agg for first place. Without Ole Blue Gary placed fifth!

No one knows how many rounds the East Germans may have fired through that rifle before Jimmy Williams brought it to the U. S. K. C. Young shot a case-plus through it before selling it to Gary. Gary shoots in the neighborhood of 15,000 rounds a year and has every year since acquiring the rifle in 1993. Inspection with a borescope reveals a rough bore. A "void" or hollow space in the rifling now exists for five or six inches in front of the chamber; you can easily feel it as you push a patch through the bore. Jimmy Williams, K. C. Young and Gary all attribute that void to erosion from the thousands and thousands of rounds fired through the rifle. If that void has impaired the rifle's accuracy you sure

GUNSMITH VIDEOS

By Steve Acker

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This rifle was first described in *The Home Shop Machinist* magazine, and now is in video form, as well. Steve uses some techniques and tools never before seen in video. Every step of machining the receiver, bolt, barrel, and scope mounts is shown. He discusses and shows the various components, tools, and products he uses when building this highly precise firearm. (3 hours, 45 minutes) **ONLY $67.95 postpaid**

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can't tell it.

The rifle now wears a Hoehn 4000-Plus tuner. The firing pin and extractor springs have been replaced. Although a thin shim was installed in the bolt to improve headspace Gary still observes blowback on the face of the bolt after a match. He guesses the headspace is greater than .046" but he has never bothered to measure it. After buying the rifle he shot Eley BR Gold in it for quite some time. Later he changed to Lapua with no noticeable deterioration in results. These days Ole Blue is happily eating the new Eley Tenex Ultra and continuing its winning ways.

K. C. Young shot a world record IR 50/50 target with it, 250-14x in the old pre-tuner days when he still owned the rifle. Gary and Ole Blue broke that record with a 250-17x in 1995. The current IR 50/50 record for the 10.5 pound class is 250-22x; Gary and Ole Blue have produced two scores of 250-21x. Ole Blue led Gary to a win at the BR-50 Nationals in 1997. The rifle holds the Virginia and Alabama IR 50/50 records, having earlier set a Georgia State record. Gary has long since given up keeping track of the club, state and regional championships the rifle has won.

Ole Blue continues to add to its legend or, as Gary says, "Like we say down South, that dog will still hunt." But Ole Blue is getting old and can't last forever. Those thousands and thousands of rounds through the bore have taken a toll.

Is it time for Ole Blue to retire? Not yet. "We may be over the hill," Gary says, "but don't count us out yet." When Ole Blue has shot its last match rimfire benchresters won't be able to rest any easier. There is another S. O. B. (Son of Blue) in the works. Gary says, "He may be better than his old man. We'll see."

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THE BERSIN TOOL: Finally, Concentricity Measuring and Correction! Made Easy

BY M.L. McPHERSON

Synopsis: While cartridge concentricity has long been recognized as an important component of accuracy, concentricity measurement has heretofore been difficult, at best. Moreover, existing tools have provided no means for accurately correcting bent cartridges. The ***BERSIN*** *tool dramatically changes this situation.*

The BERSIN Tool: Finally, Concentricity Measuring and Correction! Made Easy

Most serious shooters know that, often, the bullet axis does not properly align with the case axis. When such a round is chambered, the case aligns to the chamber and therefore, bullet and bore axes cannot coincide. This leads to inaccuracy, as described below. Such a bent cartridge can result from one or both of the following causes:

➢ Case body is bent

➢ Case neck is bent

(Hereafter in this work, I will use the term "run-out" to represent this general situation.)

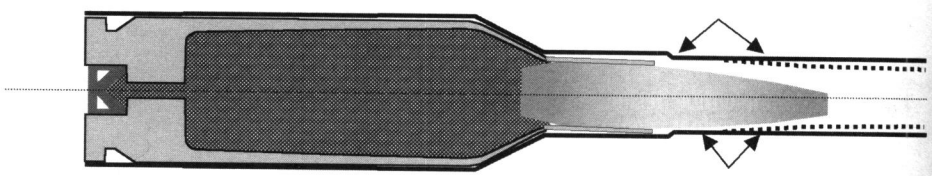
A bent case body results from the common condition of the case body wall being thicker along one side. During the firing process, as such a case expands to fill the chamber, the thinner side usually expands more easily than the thicker side; hence, the thinner side often stretches more than does the thicker side. As chamber pressure drops, the case will spring back, closer to its unfired size. Since the thinner side will have stretched more, it will also shrink more; hence, the case will become banana shaped.

Resizing such a case does nothing to solve this problem. Intrinsic case springiness, which caused it to bend after firing, will keep bending the case, no matter how many times the handloader drives it into and withdraws it from a resizing die or how many firing and resizing cycles one subjects it to—once bent, the case stays bent! (Imagine trying to remove a bend from a piece of otherwise straight wire spring by only straightening it at the bend, you might reduce the bend but unless you bend it past straight, it will always relax back into a bent state.)

A bent case neck can occur for any number of reasons but is commonly the result of (perhaps incautious) bullet seating, where the bullet begins to enter the case neck when the two do not align; as one drives the bullet farther into the case neck, bullet and case neck must eventually come into alignment. This process can overstress the case shoulder, so that the shoulder permanently bends, as required to allow the case neck to line up with the initially out-of-line bullet, rather than forcing the bullet to align to the original axis of the case neck. Better dies and better loading techniques can help here; nonetheless, vagaries of case mouth interior finish, concentricity and thickness, and annealing of neck and shoulder of case can work to generate a bent case shoulder, despite the handloader's best efforts and use of the best tools available and the best feasible bullet seating techniques.

While a poorly-centered or poorly-aligned gun or sizing die chamber can generate off-center or bent case necks, by far the most likely cause of this condition is as described above. Hence, shooters often find that some of their loads are bent, in the sense that bullet and case neck do not align with case body. Cartridges with this condition, when chambered, force bullet to be misaligned with axis of bore.

Potential accuracy problems associated with this situation are twofold. First, when such a bullet is hammered into the rifling, as the charge ignites,



Sketch #1: Representation of Chambered Cartridge with Run-Out

resulting stresses are apt to exceed bullet strength, so that asymmetric bullet deformation will occur, see sketch #1.

With bent case neck, axes of barrel and bullet do not align. Arrows represent bullet movement that will occur before bullet touches rifling. In this instance, bottom of bullet will hit rifling first; this will tend to bend bullet and perhaps restrict movement of bottom side of bullet while top side continues forward, unimpeded. This could result in asymmetric bullet deformation and resulting imbalance of what had been a balanced bullet. Initial impact of bullet with only one side of bore will also initiate barrel vibrations that are oriented in the vertical plane (in this example), see Sketch #2.

Second, even if asymmetric bullet deformation did not occur, firing a round where bullet does not align with case (and bore) axis will always generate asymmetric barrel vibrations. These vibrations will be biased in the direction parallel to that between portion of bullet that first hits the rifling and bore axis, see sketch #2. This vibrational direction will depend upon how round is chambered (with respect to run-out).

Considering a cartridge that has significant run-out:

With cartridge inserted into chamber so that bullet nose is bent directly downward (toward 6 o'clock), bullet will first hit rifling at or near bottom of barrel (depends upon where rifling is located at that point of bore—bullet may initially hit one or two lands and it may not hit directly at 6 o'clock position, compare sketches). In any case, this bullet-to-bore contact can be associated with significant force. As bullet hammers into bore, bore pushes back on contacting portion of bullet (normal force). This reaction can be sufficiently strong to asymmetrically deform bullet; simultaneously, bullet pushes with equal force on barrel, which initiates asymmetric barrel vibrations—both affects are indicated by double-ended arrows. Critical points here are that degree and direction of both bullet

Continued on next page

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The Berin Tool: Finally, Concentricity Measuring and Correction! Made Easy

Continued

deformation and barrel vibration depend upon degree and orientation of bullet run-out. Former is intrinsic to that particular cartridge; latter depends entirely upon how the shooter happened to chamber that particular cartridge. Moreover, even if all cartridges are marked, to indicate orientation of run out, vagaries of ogive and degree of run out can still conspire to create differing orientations of barrel vibrations from one round to the next, despite chambering of all bent rounds in the same relative orientation!

Formerly, serious shooters have recognized how critical run out is to accuracy (repeatability) of cartridges within a particular group. Several companies have attempted to address this concern and have offered tools intended to measure run out. Unfortunately, all such tools have been difficult to use correctly and with good repeatability and none have provided any means of accurately altering run out by purposefully bending the case neck, as required, so that run out is significantly reduced.

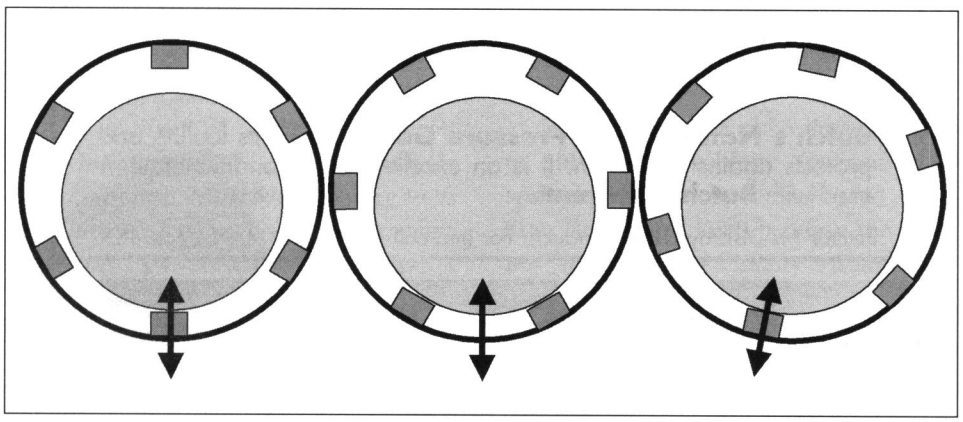
I created the instruction manual for what is perhaps the very best of those tools. In so doing, I became intimately familiar with that device. Hence, I can unabashedly say that, at best, it is hard to use any such tool correctly; further, it is essentially impossible to set such a tool up identically each time, so that results are repeatable from one testing session to the next; and finally, no two users are apt to use that or any similar tool with identical set ups, so their "run out" measurements cannot be compared.

The **BERSIN** tool solves all such problems. It is designed so that the user practically cannot alter tool set up—all users will get the same readings in every instance and usage. Measurements can be read as accurately as 2/10,000-inch (far more precision than is possible with any other run out measuring device and certainly more than is necessary!). This tool is also designed so that the user can (usually) easily bend the case neck, as needed, to eliminate or at least dramatically reduce run out.

I have to note that in my limited experience it seemed to be difficult to straighten some particular types of cartridges and loads without damaging either the case neck or the bullet. I noted this situation particularly with cartridges combining shallow shoulder angles (which are stronger against bending), short and soft (varmint type) bullets (which are easier to deform) and a thick and hard case shoulder wall (which is naturally more resistant to bending). In this regard, the sloping shouldered, hard and heavy case of the 220 Swift, particularly when loaded with the relatively soft and short 40-grain V-Max was a real problem—I simply could not correct run out on some of the rounds; 22-250s, loaded with the relatively soft Starke 55-grain bullets also gave me fits.

I have discussed this issue with Bersin and they were surprised. In their testing they had not experienced this problem but they agree that since they have not tested every possible load and particularly since varminting and varmint specialized loads are not common in Europe, this might be something that they have missed.

This problem was not noted when testing any cartridge having a modern shoulder design (30-degrees or sharper) or with a longer and harder bullet (target or hunting style). I tested and corrected run out on factory 260 Remington and 6.5-284 Norma ammunition with no



Sketch #2: Cross-Section Representing Portion of Bullet that First Touches Rifling.

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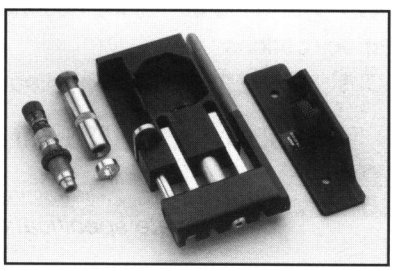

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problems and was able to straighten those almost completely eliminate run out, even in the crookedest examples.

Owing to this concern, depending upon chambering and bullet that they happen to be using, some varmint hunters might find the **BERSIN** tool most useful for simply sorting ammunition (factory or handload) into two groups:

1. Relatively straight rounds, suitable for long-range shots and use in target shooting
2. Relatively crooked rounds, suitable for most closer range shots on vermin

Such sorting is easy and fast to do and cannot harm the rounds in any way. Such sorting should readily generate a pile of "straight" rounds that will produce best possible accuracy with that load. Rounds in the "crooked" group will shoot to approximately typical group size of unsorted rounds—these particular rounds represent the worst run out based "fliers" in the collection but most 10-shot groups will contain several such fliers anyway.

For loads using longer or harder bullets in a case with a sharper shoulder, the straightening process is so easy and quick that one may simply choose to straighten all rounds before use. This is where the **BERSIN** tool really shines—it allows one to ensure that all long-range rounds are as accurate as is possible. Several benchrest and other target competitors are already using this tool to help them consistently shoot smaller groups than they ever have before.

Please make contact through WWW.BERSIN.INFO, or **BERSIN GmbH,** 30 St. Jakobs-Strasse, CH-4002 Basel, Switzerland, or BERSIN@BERSIN.INFO.

The Heart of the BERSIN Tool

RUN OUT (Exaggerated): Axes of Case & Bullet do not align: Lower arrows represent **Bersin** tool measurement

BERSIN Tool

STRAIGHTENED CARTRIDGE: **Bersin** tool bends case shoulder Axes of case & bullet align

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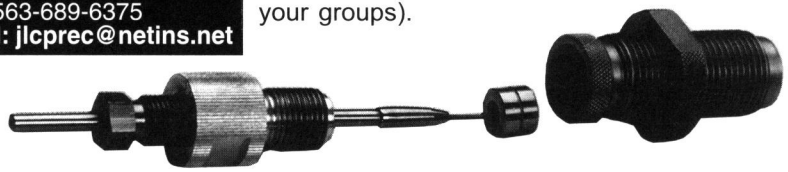

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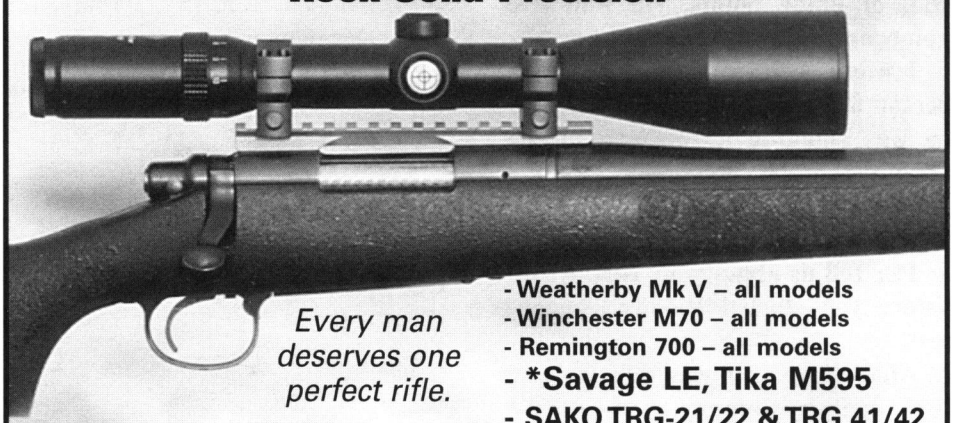

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Great Shooters I HAVE MET

Part IV: ALLIE EUBER

BY JAMES MOCK

There are several icons of benchrest shooting, but nobody doubts that Allen Euber (known as Allie) is one of the greatest. I had heard of the great Euber bullets for years and expected Allie to be much older than he is. The late Myles Hollister first told me about Allie during a telephone conversation. I was using Myles' bullets and mentioned the "old" Euber bullets and how great they were. Myles told me that he would tell Allie this (Allie was sitting in Myles' living room at the time). Here is a man who has the competitive fire after setting many world records and accumulating 45 Hall of Fame points. He won five points and set two records last year.

I was privileged to meet Allie in person at the 2003 Super Shoot, and he was shooting a sporter that he bought from Charlotte Hollister.

The Formative Years

PS: Tell us about your early years before you started shooting benchrest.

Allie: My father was a hunter and fisherman, therefore my brothers and I followed his example. We had venison as a staple in the Euber diet. Along with deer hunting, he also loved chasing rabbits with beagles, as do I today.

Dad, being a survivor of the Great Depression, did no target shooting or any other shooting that "wasted" ammunition. As a matter of fact, he seldom shot his rifle before deer season. He rarely missed, so I guess his rifle kept its zero.

In 1967, I entered the US Army and found myself in the 1/5th Mechanized Unit of the 25th Infantry Division in Viet Nam by July of that year. I don't know if this influenced my shooting career or not, but it made an impact on a young lad from Vermont. My small unit had over 100 men killed in 1968. I was one of the lucky ones, although I was wounded. I received the Purple Heart, the Army Commendation Award, the Bronze Star, and the Combat Infantry Badge during my service in Viet Nam. We had a reunion in 2003 (35th anniversary), and there were 15 of us survivors there. This reunion helped me put some closure to many old psychological wounds that I had. My older brother Lee also served in Viet Nam.

After leaving the service, I returned to Vermont. Gordie (the oldest brother) had begun hand loading ammunition. Lee and I soon followed his example by loading rifle and pistol cartridges. By the mid-1970s, informal target shooting began down on the farm. Gordie was the "gun nut" and he had a borrowed Mod. 70 Winchester in .220 Swift and I loaded for my custom .30-06. We shot whatever target game that came to mind, including a running deer target. I actually did pretty well with my old .30-06 in that venue. As time went by, we seemed to shoot fewer and fewer animals and more and more targets.

After several months of this type of shooting, we built benches and started

(L to R) At a Super Shoot in the mid 1980s…Tony Boyer, Allie Euber and Lee Euber. Heaven only knows what the trophies were for. Probably nothing of any consequence.

having informal competitions. There were about 12 to 15 of us who tried to "best" each other on a fairly regular basis. Our skill and equipment both improved as time passed.

The Accuracy Bug Bites

PS: How did you get into formal benchrest competition?

Allie: The late Seely Masker happened to be at one of our informal shoots one day, and asked if any of us were interested in a registered match at Johnstown, NY. Johnstown was about three hours away and I dismissed the idea of shooting there. However, my brother Gordie decided to shoot in the registered match. I had forgotten about the match when Gordie came to the house with trophy in hand. He was as excited as a 7 year old child at Christmas. He had won the 200 HV agg.

We were using the .222 in Remington 40XBR's in those days, and that is what Gordie shot on that day. His rifle was completely stock from the Remington Custom shop. In those days Mike Walker headed this shop, and he along with Jim Stekl shot benchrest competition.

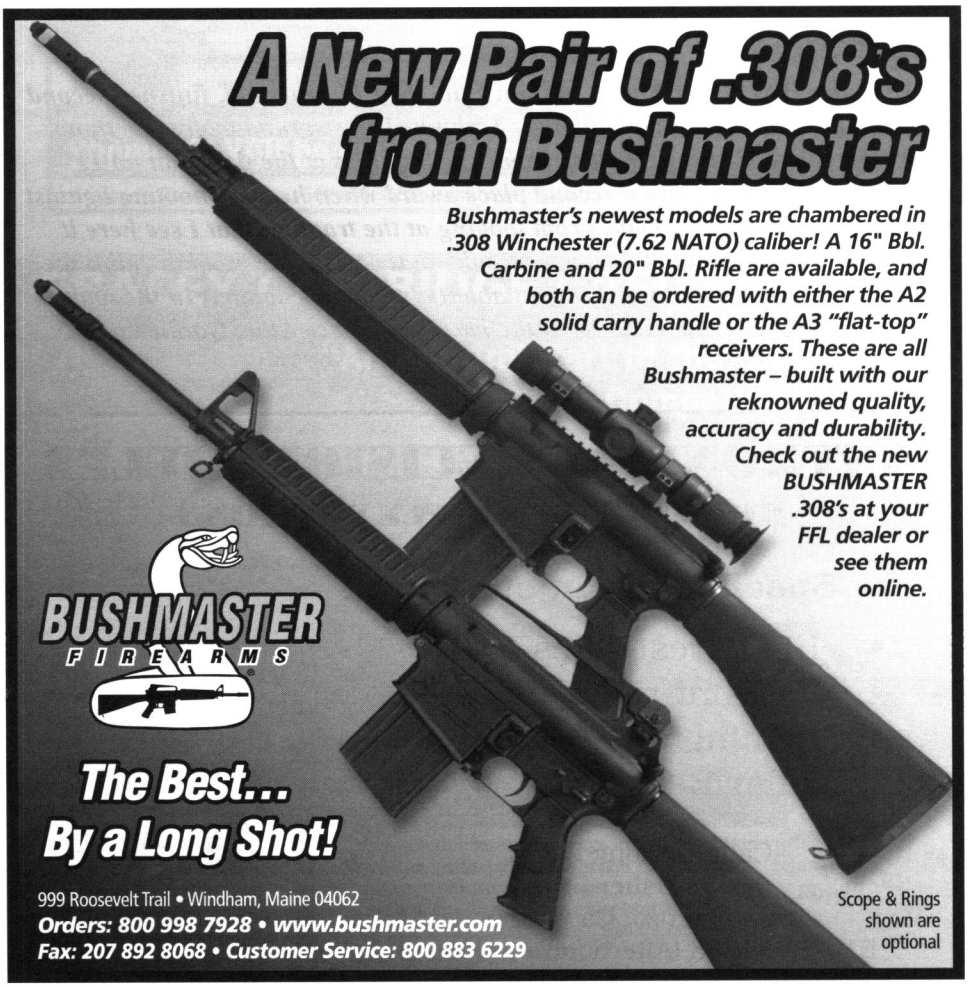
Another great thing that came from the match was the fact that Gordie met Myles Hollister. He told me that this man was extremely helpful and that he lived at Whitehall, NY, just 15 miles from where we lived. Not long after this, Lee and myself met Myles and quickly formed a long lasting friendship. As a matter of fact, he became "family". He was the Euber boys mentor, gunsmith, and most of all friend for the next 28 years.

After seeing how much fun Gordie had at that Johnstown shoot, Lee and I followed suit and began shooting. My factory 40X's just didn't seem to measure up to the accuracy required, and I had decided to sell my benchrest equipment. I was on my way to sell the aforementioned rifles (which sold new for $285), when I saw Myles. He wanted me to stay with benchrest a little longer and offered to sell his prized sporter to me at $265. He said to go try it and if I wanted it, he would take the above amount of money for it. The rifle was a Remington 600 with Hart sleeve and Hart barrel. It was chambered in 6x47 which was "the" sporter round circa 1972. Myles gave me the necessary equipment to load for this rifle along with enough of his 70 grain 6mm bullets to complete the match. These bullets were made on the Sherman dies that were so good in those days. He had to farm during the next Johnstown match, but I dutifully carried the Rem. 600 to the match.

The rifle was far superior to mine, but I could not shoot it well enough to win the 100 yard phase. While waiting for the 200 yard stage to begin, Clarence Detsch suggested that I try some of his 70 grain boat tail bullets for 200 yards. Either these bullets worked better or perhaps I

Continued on next page

I first met Allie Euber at the 2003 Super Shoot. It was downright cool out there as the heavy coats will attest.



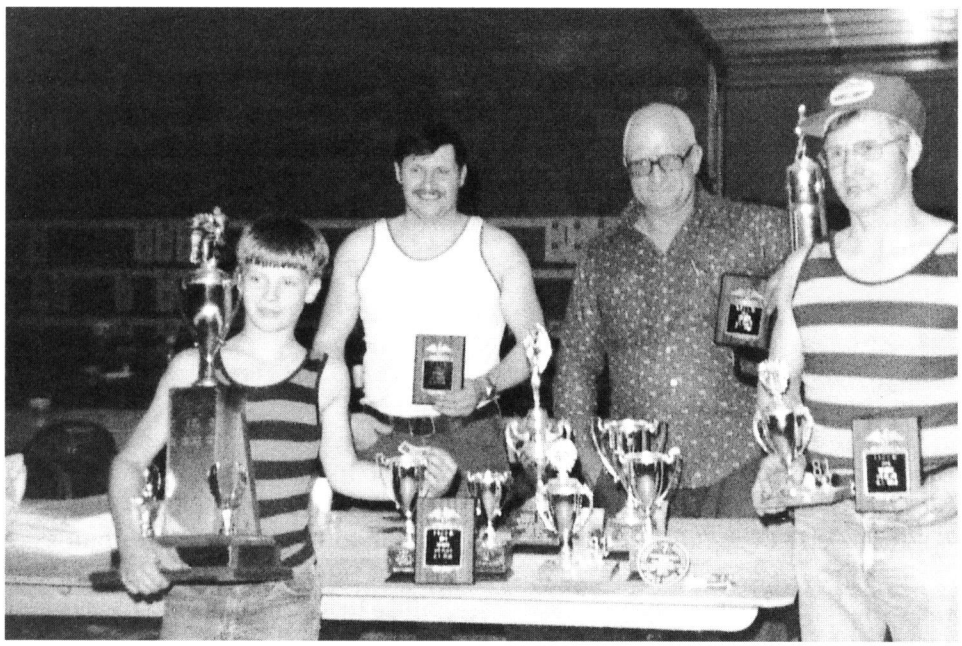
Great Shooters I Have Met – Part IV: Allie Euber

Continued

shot better, but I won with the yardage with an agg of about .375. This yardage win was the turning point in my shooting career. Needless to say, Myles had to build a new rifle for himself.

PS: After this first win, what is next?

Allie: By the mid-1970's, I decided to become the best benchrest shooter that I could be. There were several important improvements to come along at this time. The greatest, in my opinion, was the development of the PPC cartridges. Lou Palmisano showed up at Johnstown and touted this cartridge that he and Ferris Pindell developed as the greatest benchrest cartridge ever developed. After Lou's son (an inexperienced shooter) destroyed the competition that day at 200 yards with a .22PPC, I needed no further convincing. He told me that the PPC reamer would change the 6x47 into a 6PPC without much trouble. I ordered a new rifle from Ferris Pindell in .22 PPC and had my 6x47 rechambered for 6 PPC by Ricky Butler. My brothers opted to wait for one year before jumping onto the PPC band wagon. My rifles were probably among the first half dozen or so chambered for the PPC cartridges, and I have never regretted the decision.



Taken at the 1981 Super Shoot. My son Etic, then 11 years old, finished second to the great shooter Don Geraci in the Unlimited class grand aggregate that year. Don gave Eric his first place trophy, telling him at the time that no 11 year old kid should receive a second place award when he was shooting against adults. A nice gesture by Don. From looking at the trophies that I see here it looks as if we also won the 4-shooter trophy that year. (They used to call it the 4-man trophy but Faye Boyer brought about a verbiage change.) In the photo that's Eric up front, and (L to R) in the background are Allie, Gordie and Lee Euber.

The second development was that of gluing the action in the stock. The common stock of the day was a laminated wooden stock, and the cold winter shooting at Dunham's Bay often caused mine to come "unglued". The development of fiberglass stocks and better glue overcame this problem in the next few years.

The third thing of importance to me was that I decided to make my own bullets. After talking to Myles, I ordered the necessary dies from Clarence Detsch. The dies that I received were for his "baby" boat tail design. Shortly after this, I got a flat base core seater and the necessary punches to make a flat base bullet. These dies cost about $700 and I had little knowledge of how to use them.

The fifteen mile trip to Myles' home would get me in touch with one of the best bullet makers in the country. After setting up the presses, Myles showed me step-by-step how to swage bullets. It seems like yesterday when he pointed up that first bullet with these new dies. As the bullet popped from the die, Myles smacked his lips in approval as a smile came over his face. He measured the bullet with a micrometer and inspected it with a magnifying glass. Next, he told me that if I ever got rid of these dies, he would like a chance at buying them. Even though he passed judgment on dies based on a single bullet, he was not wrong. These dies have made more than 9 million bullets by myself and my son Eric. Don Geraci, Tony Boyer, Dr. Maretzo, Lee Euber, myself, and probably others shot their way into the Benchrest Hall of Fame with bullets

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from these dies. Lee and I still shoot them, but they are no longer for sale because their shank diameter has grown to .244.

PS: At the time of this writing, you have 45 HOF points (ten are required to make the HOF). Other than Tony Boyer with 97, you have quite a few more than the person in third place. Please give the readers a summary of your accomplishments.

Allie: I have shot benchrest competition for more than thirty years. As mentioned in your question, I have accumulated 45 points. I earned points in four different decades with the last coming at the NBRSA Nationals at Phoenix in 2003. Considering that Tony has 97, I guess that I am not half as good a shooter as he is. I have been blessed more than any one shooter should expect.

Back to the question; I gained two points in 1976 at the Nationals held at Johnstown. The year 1977 was a great one for me. At the Nationals in Mainville, PA, I managed to win the three gun with a new record (the first 3-gun win with an agg in the two's). I received seven HOF points for my performance there. In 1980, I earned eight points at the Camillus, NY Nationals. This was my best-ever match. I won Sporter 100, Sporter 200, and Sporter Grand; HV Grand and the Three Gun.

I was inducted into the HOF with seventeen points at the following Super Shoot. I won the Super Shoot for the first time in 1986 and repeated in 1990. Another great year for me was 1994. I won eight more HOF points that year. The year 2003 was another bright spot in my career because it signaled a "come back" for me. I suffered three heart attacks in the last several years and thought that my shooting days were past. In 2003, I regained some of my strength, and managed to shoot well at the Super Shoot, the Myles Memorial, and the NBRSA Nationals. I am looking forward to 2004. One of my goals is to qualify for the International Team. The 2005 International Championship will be at Kelbly's in Ohio and I want to be there representing the USA.

PS: Who is the best shooter in the Euber family?

Allie: The answer may surprise many. If he had pursued it, I think that my son Eric has more natural ability than myself, Lee or Gordie. Actually, he was better when he started than Tony Boyer was when he began. As an eleven year old lad, he finished second to Don Geraci in the Unlimited Grand Agg. at the 1981 Super Shoot. Don gave him the first place trophy . Eric really appreciated this gesture.

PS: Tell the readers about the rifles that you have used over the years to win so many matches.

Allie: Starting in the early 1970's, I used a 788 Remington in .222, a 40X Remington in .222 and another in 6x47. These were great rifles back then, but they would not compete at all today. The first custom rifle that I owned was the one I described above. It was Myles' personal sporter, and it was a sleeved 600 Remington with Hart Barrel and Brown Precision fiberglass stock. The early scopes were from Lyman. The rifle was rechambered, rebarreled, restocked, and re-worked over the years, but it was a true champion. Bob Adamowicz took it and replaced the stock with one of his kevlar jewels, replaced the sleeve and re-timed the bolt. I spent about $900 on the old "war horse", but it was worth it. This rifle has won 36 Hall of Fame points for Lee and myself. I don't think Tony has a **single** rifle that has won that many.

Like all shooters, my equipment evolved from those days until now. I have shot mostly Hart barrels and have owned several Stolle/Kelbly actions. I also shoot a Stiller Viper action on one of my rifles. My pride and joy today is the new rifle that I bought from Charlotte Hollister just before the 2003 Super Shoot.

The rifle was built by Myles shortly

Continued on next page

Great Shooters I Have Met – Part IV: Allie Euber

Continued

before his untimely death. It has a Farley action, Borden stock, and Krieger 6-groove, 14" twist barrel. It is topped by a Leupold 36x Scope that was a gift from Lou Palmisano. It has Myles' name engraved on it, and I know that he is present guiding me when I shoot this rifle. It is very special to me because it is probably the last rifle that he built and he was a true, dear friend. I can't describe the emotions that I felt when Cynthia (Myles' daughter) presented the first place trophy of the Myles' Hollister Memorial Shoot to me last year. The rifle may have only been a part of the reason that I won, but it was important.

Over the years, I have tried to keep my equipment on par with those competing against me. I believe that I have accomplished this throughout the years. One cannot compete in today's environment without the very best equipment.

Hall of Fame investiture at the 1985 Super Shoot. Back row (L to R): Homer Culver, Red Cornelison, Jim Stekl, Lester Bruno, Walt Berger and Jerry Hart. Front row (L to R): Ferris Pindell, Ed Shilen, Gary Ocock, Myles Hollister, Allie Euber, Jack Deming and Don Geraci.

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PS: Ron Hoehn wanted to know about the "team" concept used by yourself, Eric, Lee, and Gordie in the Super Shoot one year.

Allie: Well.....if the Euber clan brought 4 to 6 rifles to a big match such as the Super Shoot, and only one was shooting well enough to win, we used **that** rifle for **all** four shooters. This system certainly has many drawbacks. The rifle tends to get very hot and very dirty. This is what caused me to go to the cleaning regimen that includes the liberal use of JB Bore Cleaner. Many barrel manufacturers discourage the use of an abrasive cleaner such as this, but I have shot as many as 7000 rounds through a barrel before the accuracy was gone.

PS: You have the reputation of shooting very hot loads. If so, why do you shoot at the upper pressure limits?

Allie: I use a load that gives the highest velocity with accuracy needed to win. Not all barrels will shoot accurately with the upper level loads. I will not list the loads that I shoot because every barrel has a different tolerance. Let me state that I have destroyed one bolt due to too much pressure and Gordie had a serious "blowup". His was caused by a powder mixup. Pistol powder found its way into his measure and a case full of 4227 is very "hard" on an action. He was not injured seriously, but let me caution everyone to be very careful when loading ammunition. The "hot" loads that I have been known to use will give a slight advantage in wind drift (especially at two hundred yards). There are some stubborn barrels that refuse to shoot these fast loads, but will shoot honest groups with "normal" loads. The barrel that I used at the NBRSA Nationals was one like that. If the light load that I used were known, the Euber reputation for hot loads would have been destroyed (ha! ha!).

The gospel according to Allie, or tips that will make you better.

PS: If you were to instruct a new shooter, what points do you consider to

Continued on page 58

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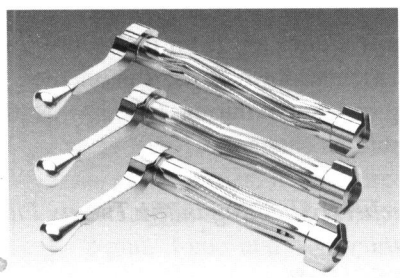

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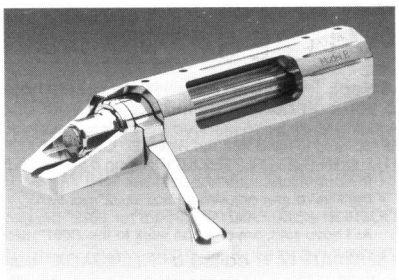

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Great Shooters I Have Met – Part IV: Allie Euber

Continued from page 56

be vital to success?

Allie: A good starting point is to find a knowledgeable shooter as a mentor. As discussed above, Myles Hollister was my mentor, and I do not have the words to describe his contributions to Lee and myself. The learning curve for this game is long enough with help. Without the mentor, countless shooters have given up and quit before they learned how to shoot.

As far as specific tips are concerned, I have several that I will share. Trigger control may be at the top of the list. A smooth let-off of the trigger without flinch or excessive anticipation is tremendously important in all types of rifle shooting. In our sport the management of recoil without upsetting our bags too much is also vital. A well balanced rifle helps in this regard. If a person can shoot with both eyes open, he or she should do this in order to keep the off eye on the flags at all times. Learn how to operate the loading process without having to remove your eyes from the down range flags. Develop a rhythm in shooting groups that allows five shots to be delivered quickly. (One must know when to stop, however.) My theory is that five rounds delivered in 20-25 seconds have a better chance at the same condition than do those five rounds spread over seven minutes. Learn to hold off with confidence when time constraints require this. The last thing that I will mention is to get good wind flags and learn to use them. Use flags at **every** practice session.

PS: Let me ask about "hummer" barrels. Those are the barrels that give the bullet less wind drift than expected.

Allie: There is no barrel that will allow one to shoot through the conditions without wind drift. With that being said, let me add that there are "hummer" barrels that give a shooter less drift than other supposedly identical barrels. One must own these barrels to really appreciate them fully. If a rather inexperienced shooter can take a rifle and shoot groups in the "twos" at 200 yards without too much hold off, then that rifle has a "hummer" barrel.

Shooters such as Tony Boyer (or myself) have been accused of shooting these "hummer" barrels when in fact we were not. Just because a shooter shoots a super agg does not mean that it was easy. No one other than the shooter himself knows how much he had to hold to keep that group together.

PS: How many rounds do you typically put on your match barrels before they are retired?

Allie: With the good shooting barrels I shoot them until they are worn out. The actual count of the number of rounds varies, and I must confess to not keeping very accurate records of that number. The sporter that I bought from the Hollisters has about 2500 rounds and I plan to shoot it through the 2004 season. (If it doesn't die before then). I shoot most of my barrels about 3500 to 5000 rounds. I, unlike many other shooters, prefer to have at least 200 or 300 rounds and at least one match on a barrel before I trust it for a major match.

PS: What brand of barrels do you favor?

Allie: Over the years I have used mostly Hart barrels. I have shot Krieger and Shilen also. Any of these three will serve one well. There are newer brands on the market that may measure up to the rigors of benchrest accuracy. I have not used any of these newer barrels so I must rely on what others have stated.

PS: I noticed that you shot 23 rounds (18 sighters and 5 record) during one match at the Super Shoot last year. Do you normally fire so many sighters?

Allie: No, not at all. I was using my sighter target to test different loads. After all, I was firing a rifle that was new to me. I had just bought it a few days before the match. I average about 11-14 rounds fired for each match shot. When checking loads, I like to shoot 3 shot groups a click up from the record load and a click down. I use this method to keep my tune during the day as the conditions change.

Benchrest Shooting in the Twenty First Century

PS: Before I get into today's competition, who was tough to beat thirty years ago?

Allie: Some of the names that come to mind are as follows: Myles Hollister, P.J. Hart, Jack Demming, Jimmy and Donna Lee Stekl, Bob, Claude, and Wally Hart, Seely Masker, Jerry Masker, Richard Baker, Richard Maretzo, Lester Bruno, Don Gentner, and Gary Ocock. I started before Don Geraci and Tony

Boyer started dominating.

PS: Was it tougher to win then or now?

Allie: It is and has always been tough to win the big matches, but I would have to rate the modern era as the toughest. There are so many shooters who have such superb equipment today. Equipment is not enough to "carry" one to a championship, but if a person learns the game **AND** has this great equipment, he is going to be hard to beat.

PS: Who are some of the shooters that are at the big matches today that are capable of winning?

Allie: There are many great, young shooters and I am sure that I will leave some out that should be included. The following are some of the ones that "scare" me when they show up at a match. Many of the ones listed in the previous question are still tough, but I won't list them again. Bart Sauter had a great year in 2003, and I expect him to continue because he has what it takes to win. Dale and Russ Boop are both consistent winners, and I know that Dale is striving to get his remaining points for the HOF. Another shooter with a shot at the HOF is Pat Byrne. He finishes most matches at or near the top. Mike Gamble, Jack Neary, Pat Hurley, Kent Harshman, Mike Bennett, and many others are capable of winning any match. As you read this I am sure that you are saying "How can he leave xxxx xxxxx out. He is the hottest shooter out there. The list above is not definitive, but it includes those that I remember from last year.

I did leave one off of this list that is arguably the hottest shooter in the USA. His name is Ken Hottenstein. Although he is in his early thirties, he has already accumulated about nine HOF points, and won the 2-gun, 3-gun and 4-gun at last year's NBRSA Nationals. He also won the Super Shoot a few years ago. This young man can **shoot.**

I would like to take this opportunity to mention a shooter that is very determined to improve his shooting this year. Milt Craven is a friend of mine who recently lost his wife to cancer. Milt is a good shooter, but he needs some time at

Continued on next page

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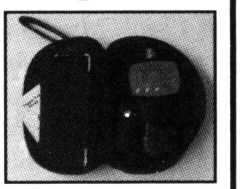

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Great Shooters I Have Met – Part IV: Allie Euber

Continued

the range to get back to where he was a few years ago. I am going to help him in every way that I can. If you see him, please encourage him in your own way.

PS: Did you readers notice that Allie failed to mention the author of this article. An oversight, I am sure. Seriously, I would like to take this opportunity to thank Allie for his time in answering the long list of questions that I sent. Much of the material that he wrote had to be omitted due to the constraints of space. The pictures were provided by Allie except for the one that showed him with me at the Super Shoot.

If you see him at a match, be sure to tell him how much you appreciate his service to this country and to the sport of benchrest shooting.

James Mock

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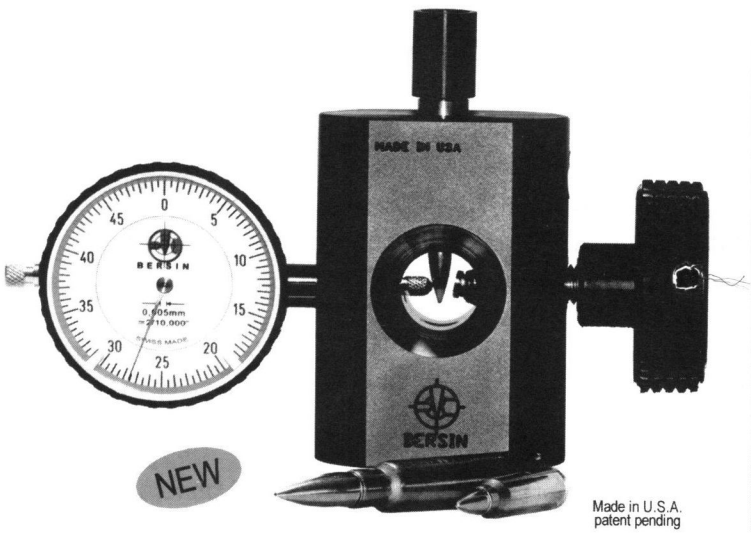

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The Last Post

Part 102
FINAL RESTING PLACES OF FAMOUS RIFLEMEN
JOHN JOSEPH ("Black Jack") PERSHING

BY PAUL NORDQUIST

John Joseph ("Black Jack") Pershing was the commander of the American Expeditionary Force (AEF) in Europe in World War I. In this capacity he held together the American military forces as a separate, autonomous army—maintaining its integrity in the face of strong entreaties from our allies, the British and the French, who wanted our men to be used as replacements in their armies. By keeping US forces together to the successful conclusion of the war, Pershing not only guaranteed an American presence at the peace negotiations, but also established the American soldier and nation as international forces to be reckoned with. Throughout his life, as soldier and afterwards, Pershing remained a strong advocate of marksmanship training and considered the function of the rifleman in war to be of paramount importance.

John Joseph Pershing was born on 13 September 1860 in Laclede, Missouri. His family reflected the turmoil of those years: his father was a staunch Union supporter while his mother's people were Confederates. Pershing's earliest memory was of the sacking of his town by Confederate bushwhackers led by one Calvin Holtzclaw. Pershing's father ran the general store and was suttler to the Union detachment eventually stationed in the town.

Brig. Gen. John J. Pershing at the time of the Mexican Punitive Expedition, 1916-1917. Whether on horseback or on foot, in uniform or in mufti, Pershing always looked like a general. The Washington Post once named him the best dressed man in Washington, DC. **(Photograph courtesy of the National Archives and Records Administration.)**

After the war the Pershings enjoyed a life of comparative affluence, owning, in addition to the store, several large farms. All this ended in the panic of 1873; they lost the store and farms, his father became a traveling salesman and his mother took in boarders. John Pershing, at age seventeen, became a teacher in a school for black children. Not a high-status job then, but it may have established in Pershing a quality that characterized much of his later military career: the ability to get along with those not of his race. Pershing attended the Normal School (teacher's college) at Kirksville, MO, with the ultimate goal of becoming a lawyer. A notice in the local paper of an examination to select one person from the district for admittance to West Point inspired Pershing to apply. West Point had two advantages: the education was considered a good one and it was free. Pershing won appointment and, at age 21, just under the cut-off age of 22, went to West Point to begin an illustrious military career.

At West Point, Pershing persevered and, while never brilliant academically (foreign languages were his *bete noire*), he easily fell into the routine of discipline, drill, pride of uniform and military bearing. Pershing was elected class president every year and in his last year was selected first captain of the Corps of Cadets. Pershing asserted in later years that no military rank ever gave him more satisfaction than that first captaincy.

Continued on next page

The Last Post – John Joseph ("Black Jack") Pershing

Continued

Pershing graduated from West Point in the class of 1886 and reported for duty to the 6th U.S. Cavalry in New Mexico in October of that year. The Indian Wars were winding down; Geronimo had surrendered only weeks before and most of the army's efforts were directed to keeping order between the settlers and the Indians.

Pershing very early established a reputation for being someone who got things done, someone who was able to inspire and motivate the men under his command and whose judgment was to be relied upon.

From the start, Pershing valued marksmanship. He believed that the rifle was the indispensable tool of the soldier and skill with that arm was to be encouraged. He took pride in taking a group of poorly-shooting soldiers and by good instruction and enthusiasm making them first-rate marksmen. Pershing himself went Distinguished in 1891 under the Army's Distinguished Marksman program originated by General Philip H. Sheridan.

Pershing's next posting was to the University of Nebraska—as professor of military science; in today's nomenclature he headed the ROTC unit. The youth of Nebraska had little interest in the "ROTC", although the charter of a state university demanded the unit exist. By strength of personality and resolution, Pershing whipped into shape an apathetic group of Nebraska farm boys; enrollments in the unit skyrocketed when the forty-five man contingent that Pershing selected (and drilled punctiliously) won first place in a national drill team competition in Omaha, NE. Later the cadet drill team styled itself The Pershing Rifles—the first of a long series of military companies in the USA to bear that title.

In addition to the military science duties, Pershing also taught mathematics and fencing and, in his spare time, got a law degree from the University of Nebraska.

Pershing was a sociable sort, very much a ladies man (a "spooney man", in the slang of the day), a skillful dancer and a man known to take a drop or two now and then, but he was always able to separate the social aspects of life from the professional and was a model of moderation and responsibility.

After Nebraska, Pershing reported to Fort Assiniboine, Montana Territory, to command a troop of black soldiers of the 10th Cavalry—the Buffalo Soldiers. Pershing's respect for them helped insure a successful command. At Ft. Assiniboine, Pershing met the commander of the army, the old Indian fighter Nelson A. Miles, and arranged a hunting expedition for him; Miles was impressed with Pershing and appointed him his aide-de-camp to serve in Washington, DC. While in New York to witness a military tournament Pershing shared a box with Theodore Roosevelt, then police commissioner. The two hit it off, both nearly the same age and old plainsmen to boot; it was a meeting whose significance in Pershing's life cannot be underestimated.

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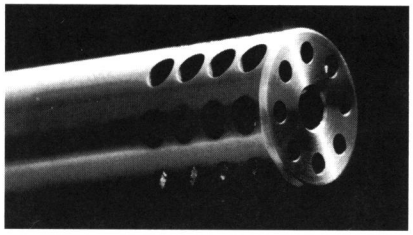

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In 1897 Pershing returned to West Point, this time on the faculty, as a tactical officer; his primary function was to enforce discipline on a company of cadets. Pershing went overboard. He was a martinet carrying discipline so far that he was silenced in the mess hall: when he entered the hall the entire corps of cadets fell silent and motionless, signifying their dislike and contempt for him. Many tactical officers received nicknames and Pershing was no exception; the cadets knew of his service with the Buffalo Soldiers and he became "Black Jack" Pershing. "Black Jack" is a bowdlerized version; what they actually called him employed the N-word. Why West Point worked out so poorly for Pershing is not clear; his success at Nebraska, under nominally similar circumstances was conspicuous. What Pershing took away with him from his stint as a tac officer was the realization that with discipline, as with many other things, you can go too far. A lot more, beyond the right amount, is not always better.

The splendid little war with Spain was commencing and Pershing was stuck at West Pont; the War Department prohibited officers serving there from leaving before their tour was up. In a desperate attempt to get into the war, he appealed to George Meiklejohn, and old Nebraska friend and Assistant Secretary of War who, one day when the boss was out of town, relieved Pershing from duty at West Point and assigned him to his old unit, the 10th U.S. Cavalry. Pershing was on his way.

Although John Pershing had been in the army for twelve years and had never been shot at, he acquitted himself well in Cuba. A contemporary described him as being as cool in battle as a bowl of cracked ice. His Buffalo Soldiers were a vital part of Teddy Roosevelt's charge up San Juan Hill into the White House. (Frederick Remington's painting *Charge of the Rough Riders at San Juan Hill* graced the cover of the July, 1995 **PS**).

After the war and a short desk-job stay in Washington, Pershing managed a transfer to the Philippine Island where some of the citizens of America's newly-acquired empire were giving problems. These troublesome people were the Moros, Islamic natives of the Philippines whose tenacity of life resulted in the adoption of the .45 ACP as our service handgun cartridge. Pershing studied the Moros, their culture and religion and learned their language —a novel approach at the time. As a result, said Brig. Gen. George W. Davis, Pershing's commander, "Pershing you are the only man who knows anything about the Moros...Do everything possible to get in touch and make friends of them".

That was exactly what Pershing did. He treated the Moros with dignity, respecting their customs and taboos, treating them as equals but using force when that was called for. He assured the Moro dattos (chiefs) that the USA did not intend to make Christians of them and that their culture was safe from our intervention (the issues of polygamy and slavery were not addressed). Pershing so impressed the Moros that they made *him* a datto. It was a strange ceremony: Pershing and the Moros squatting on their heels, chewing betel nuts and swearing allegiance to the USA—on the Koran. Pershing would later remark that it was the most unique [sic] ceremony in which he had ever participated.

Some of the Moro dattos resisted Pershing's efforts; these were dealt with at the siege and conquest of the fort at Bacolod at the cost of nine Americans wounded and a hundred and twenty

Continued on page 65

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The Last Post – John Joseph ("Black Jack") Pershing

Continued from page 63

Moros dead, a victory that got Pershing a lot of attention back home. Promotion in the Army in those days was by strict seniority; the President could jump officers to higher rank but only by making them general officers. President Theodore Roosevelt decried this limitation in a 1903 message to Congress specifically mentioning Pershing's exploits as deserving recognition not allowed by the seniority system.

Pershing returned home in mid 1903 to serve on the newly formed General Staff in Washington, DC. In December of 1903, at a dance at Fort Meyer, VA, Pershing met Helen Frances Warren, known universally as Frankie, the daughter of Senator Francis E. Warren of Wyoming, said to be the richest man in that state and Chairman of the Senate Military Affairs Committee. (Warren would later be President of the NRA, 1925-1927). They were married in January 1905 and spent their honeymoon on Pershing's new assignment—U.S. observer of the Russo-Japanese War.

Pershing was so well thought of that, in September of 1906, President Roosevelt promoted Pershing from Captain to Brigadier General, jumping him over 257 Captains, 364 Majors, 131 Lieutenant Colonels and 110 Colonels (a total of 862!). Though such promotion was uncommon, it was not unheard of (Leonard Wood, among others, had been similarly favored). There were hints of scandal and undue influence; that Black Jack's father-in-law was Chairman of the Senate's Military Affairs Committee was not unnoticed. In fact, though, Pershing had been mentioned for the promotion as early as 1903, before he met Frankie Warren, and all but one of the generals in the Army had recommended the promotion.

In 1914 Pershing was assigned to the US-Mexican border; he left his family (by then, wife, three daughters and a son) quartered at the Presido in San Francisco. In the early morning hours of 27 August 1915, tragedy struck; Pershing's wife and three daughters were asphyxiated when a fire broke out in the family quarters. Only Pershing's son, Warren, age six, survived. It was a tragedy from which Pershing never fully recovered.

But Pershing was a soldier, and when, in early 1916, Pancho Villa attacked and burned Columbus, NM, Pershing was called upon to deal with him as commander of the Mexican Punitive Expedition that was to spend eleven months chasing the Mexican bandit over the Chihuhan desert. They never caught Villa although they did keep him on the run, annoyed him greatly, and significantly reduced his forces; Villa was eventually assassinated by his Mexican enemies in 1923.

By some standards the Punitive Expedition was a failure: Villa was not captured, nor was the US-Mexican border secured as there were insurgent Mexican raids while our troops were chasing Villa. Pershing attributed the failure to faulty intelligence and a lack of support from the Mexican government of Venustiano Carranza. While the Americans were keeping Villa on the run, the Mexicans thought them interlopers bent on conquest. Although the government troops and the Villista rebels were fighting, they resented the American presence more than they disliked each other. It was, Pershing said, like interfering in a family quarrel.

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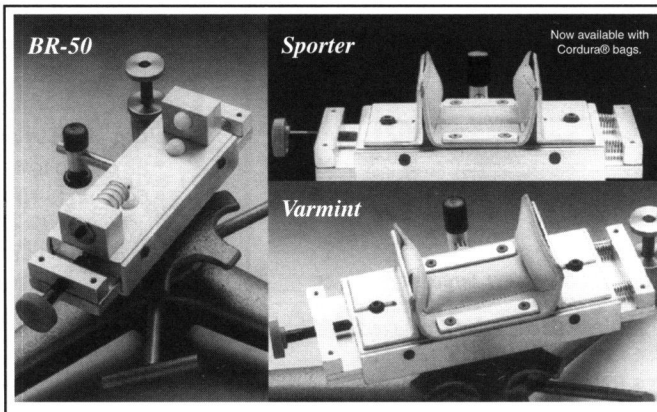

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The Last Post – John Joseph ("Black Jack") Pershing

Continued

For all that, though, it was a useful exercise. For Pershing, it meant his largest command (11,000 men) and it was the first modern US military operation—a valuable proving ground for the coming American involvement in World War I. Equipment ranging from shoes to motor vehicles to airplanes was evaluated under combat conditions and deficiencies corrected. Although the photographs of the expedition usually showed the always-romantic horse cavalry, in fact the troops were mechanized, traveling for the most part by motor vehicle with scouting by the primitive airplanes of the day (another first).

It was on the Punitive Expedition that Pershing's reputation as a cold, meticulous, analytical commander began to take form. He was ruthless in weeding out the inept among his officers and acquired his reputation as a demanding disciplinarian, though a fair and even-handed one.

When the European conflict of World War I threatened to involve the USA, Pershing was the general officer with the most (and virtually the only) experience in modern warfare. The other candidates to command the US forces in Europe were either too old, in poor health or considered unsuitable for personal reasons. Pershing got the job of commanding the American Expeditionary Forces. He (and the American military) had their work cut out for them: at the start of World War I, the US regular army shared seventeenth place with the armies of Chile, Denmark and the Netherlands.

The United States declared war on Germany on 6 April 1917; in May of that year Major-General Pershing (he had been promoted while in Mexico, and would later be promoted to General to give him standing equal to the British and French commanders) left for Europe with a small staff to begin the daunting task of organizing the American military effort. His orders, from his Commander-in-Chief, President Woodrow Wilson, were to take command of all US forces fighting in Europe and to keep those forces intact as a separate and distinct component of the Allied forces.

This last provision was a source of endless conflict between the US and its allies. Britain and France had a low opinion of the US fighting capacity; our newly acquired empire didn't amount to much, by European standards, and our military prowess was held in low esteem. Their skepticism was understandable—after all what does seventeenth place get you? What Britain and France wanted from us were men to fill in the ranks in their armies, depleted by three years of war. They seriously proposed that we ship raw recruits over to the

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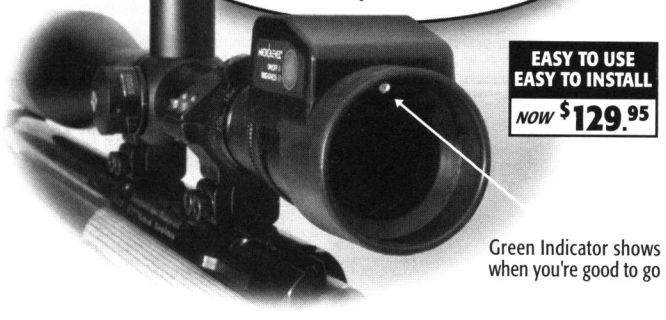

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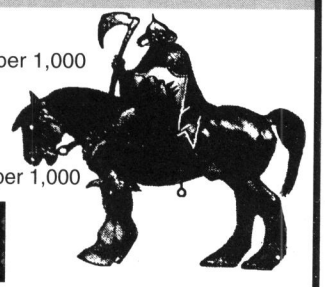

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allies' armies and *they* would train them.

With respect to the machinery of war, the US situation was dismal. We had little artillery (and nine hours worth of ammunition), no tanks, no motorized transport and few machine guns (of four different types). We did not even have enough of what we believed to be the finest military rifle in the world—the 1903 Springfield. Fortunately, we did have the capacity to manufacture in quantity the 1917 Enfield and that is what most of our troops carried.

Pershing took command of the AEF with a vengeance. He reassigned deficient officers (even classmates of '86 were weeded out) and inspected every aspect of the enterprise from mapmaking, to water supplies, to bridge building, to remount units, to graves registration, to...everything. No one, no thing, escaped his scrutiny, his unceasing demands, not only for competence but also for cleanliness, efficiency and military aspect; the West Point martinet had not gone away—completely. The AEF was *Pershing's* army. Few today can name another American military figure from the First World War.

Pershing liked the Sam Browne belt, believing it not only looked spiffy but also encouraged a proper military bearing and posture. Every officer had to wear one. He also decreed that officer's tunics had no useful pockets believing that the helpful items accumulated therein detracted from the proper military appearance. Pershing was respected and obeyed, but not loved. There was, after the war, no serious "Pershing for President" movement.

In private, Pershing was an intensely emotional man—documented by accounts of some of his closest friends and colleagues, but this was a side of him that few saw. After the tragic fire at the Presido that took the lives of his wife and daughters Pershing lived as a bachelor although he did maintain a close and supportive relationship with Micheline Resco, a Romanian artist whom he had met shortly after arriving in France in 1917. They were married in 1946.

Suffice it to say, the problems noted above (and many others) were mostly worked out, eventually, and by war's end we had two million men under arms in Europe. But Pershing's diligence (the allies called it intransigence) and refusal to commit American forces to combat until we had in place a large, well trained army was to carry the day at the St.-Mihiel salient, at Chateau-Thierry, in the Meuse-Argonne offensive, and in other late battles of the war. There is no doubt that the US tipped the balance for the allies and won the war. Both Franco-British armies and those of Germany were exhausted by four years of debilitating trench warfare; suddenly, here were the Yanks—all two million of them, with more on the way. The Germans signed an armistice on 11 November 1918. An *armistice*, not a surrender. When hostilities ceased, Germany was occupying French and Belgian soil and the German homeland had not been invaded; the Germans began an orderly withdrawal home. Pershing wanted to invade Germany to show that Germany had been *defeated.*

Throughout the preparations for the war and the military build-up Pershing continually demanded soldiers trained in marksmanship; it was a demand sometimes not fully met. "Send me men who can shoot and salute" was his command, perhaps apocryphal in word, but not in sentiment.

After the war Pershing made a triumphant return to the United States; Congress raised him to the rank of General of the Armies—a rank previously conferred only upon George Washington—entitling him to wear six stars on his uniform, though he apparently never actually did so. John Pershing finished out his military career as Chief of Staff until retirement in 1924.

Continued on next page

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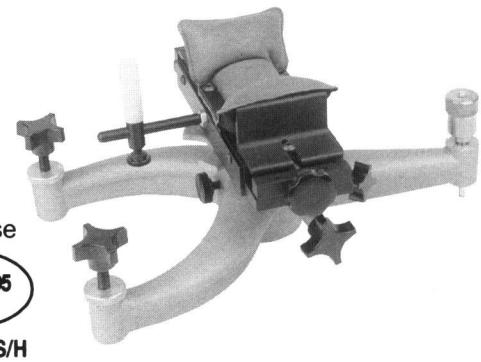

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The Last Post – John Joseph ("Black Jack") Pershing

Continued

Pershing's place in American military history is secure; his success in keeping the AEF as a separate component in the forces fighting Germany established the United States as a military power—and guaranteed Woodrow Wilson a place at the peace negotiations. Pershing embodied the military spirit—able to subordinate the most personal feelings to accomplishing the job at hand. If that seemed cold-blooded, so be it; he thought it necessary. He was a professional.

In the shooting world, Pershing's place is also significant. His insistence on skilled marksmanship, which many saw as an important contribution to the war's successful outcome, ushered in what some think was the Golden Era of American competitive shooting—the twenties. During that decade, the shooting sports reached a new high in public esteem. American rifle teams were major players in the international matches of the day, winning at least five World team Championships using, for the most part, rifles based on the 1903 Springfield.

In the smallbore game, Pershing is remembered in the Pershing Trophy, contested at eight year intervals in the United States between teams from Great Britain, the USA and other nations (see Hap Rocketto's history of the Pershing and Roberts competitions in the July and August 1996 *Shooting Sports USA*, and my less detailed article, *Bisley 2001 and the U.S. Roberts Team*, **PS**, March 2002). General Pershing donated the trophy to the NRA in 1931 and it has been in international rifle competition since then. The Pershing and the Roberts trophies are smallbore analogues of the Palma trophy.

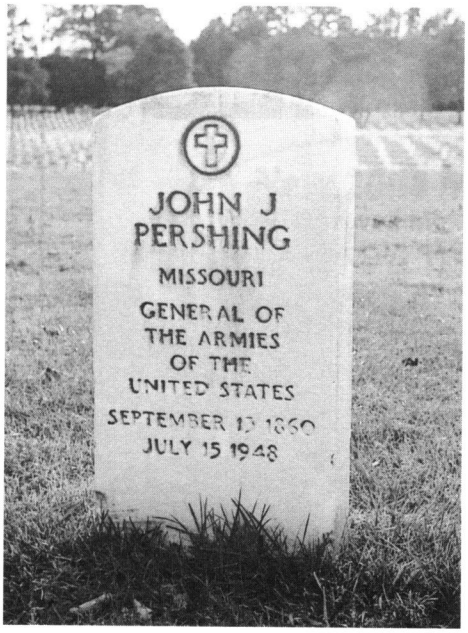
Pershing died on 15 July 1948; behind his casket, on that last long march to Arlington, were many of the Generals of World War II. It began to rain; Dwight D. Eisenhower asked Army Chief of Staff Omar Bradley whether they should get into the cars provided for them. "What do you think?" Ike asked. Bradley replied, "For Black Jack Pershing, I think it would be proper if we walked in the rain." And so they did.

On selecting his burial site in Arlington National Cemetery, John J. Pershing reportedly said "When the last call sounds I want to stand up with my soldiers"; this remark, too, may be apocryphal, but no matter. He lies surrounded by the dead of many wars, though at a respectful distance. Close to him are interred his two grandsons, Lt. Richard Pershing, killed in Viet Nam, and Col. John Warren Pershing, USA.

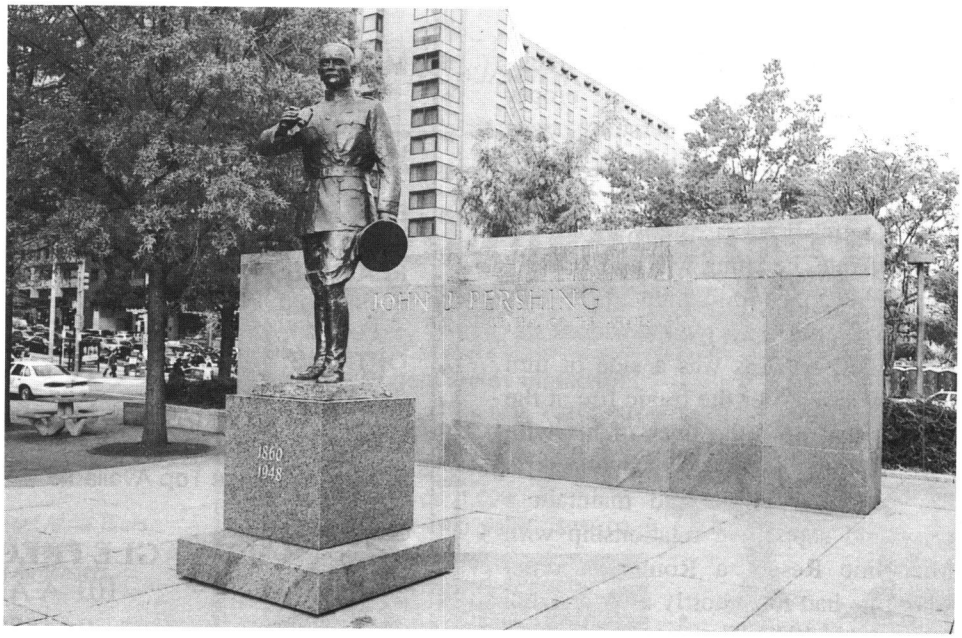
Black Jack Pershing is also memorialized in Pershing Park in downtown Washington DC.

References and further reading

The definitive biographies of Pershing are probably the two books by Donald Smythe, *Guerrilla Warrior* (1973) (source of the Davis quote) and *Pershing, General of the Armies* (1986), both published by the University of Indiana Press. Also helpful are Gene Smith's *Until the Last Trumpet Sounds* (1998), John Wiley & Sons, Inc. (which contains the Bradley-Eisenhower exchange noted above) and *John J. Pershing* by Frank E. Vandiver, (1967), Silver Burdett Co. The literature on World War I is extensive with much of it telling the story of John Pershing and the AEF, e.g. *The Doughboys*, by Gary Mead, published by the Overlook Press (2000). Pershing's own account, *My Experiences in the Great War*, won the Pulitzer Prize in 1932 and is valuable to the historian.



John J. Pershing lies atop a quiet knoll in Arlington National Cemetery; his is a standard issue government tombstone, unique in its inscription: "General of the Armies of the United States".



Pershing Park, in downtown Washington, DC, at the corner of 14th Street and Pennsylvania Avenue, NW, across the street from the historic Willard Hotel, site of Pershing's wedding festivities.

MY F-Class RIFLE PROJECT

(Conclusion)

PART III

The author load testing.

BY STAN LAWRYNOVICZ

Background

About 4 years ago, after being involved with the various pistol shooting competitions for over 30 years, I found that I was in the mood to try something new. While talking to some of my shooting friends who were into center-fire rifle competition, I developed an interest in finding out more about long-range rifle shooting. Soon after, I acquired an old Musgrave Palma rifle, performed some load development, and then tried my hand at Palma competition at the Winnequah Rifle Club in Lodi, Wisconsin—which is not too far from where I live. I quickly found out that this type of shooting was very challenging and great fun. Just the idea of shooting and actually hitting a target using metallic sights out to 1000 yards just amazed me (and still does).

While my old Musgrave Palma rifle was certainly capable of very good accuracy, the inexperienced rifle shooter behind the trigger, and his aging eyes in combination with metallic sights left much to be desired. Then, after reading about the emergence of F-Class shooting, and the fact that telescopic sights were used, I felt that I should look into this new type of competition as it might be the most realistic form of long-range shooting for me to become involved with in the long term. I soon embarked upon a very ambitious project of building my own F-Class rifle, the process of which was the subject of my two previous articles in **P.S.** (May and July, 2003)

Every year towards the end of June, the Winnequah Gun Club in Lodi, Wisconsin, holds their Midwest (Palma) Long Range Championship competition. It's an all-week affair that attracts many of the best long-range shooters from all across the U.S.—many of whom travel from match to match throughout the summer months. True road warriors, many of these shooters are retired—and, as I was to later find out, are truly great people. I decided that I would participate in this competition by shooting the Palma matches each of the three mornings with my Musgrave (despite my aging eyes) and then break out my special F-Class gun in the afternoon to shoot in the 1000 yard Individual Any-Sight Match. Thursday would be the real challenge, where, after the 1000 yard Individual Any-Sight Match, the club would hold

Continued on next page

The author on the Palma 1000 yard line.

My F-Class Rifle Project (Conclusion) Part III

Continued

a special 1200 yard match—yep, almost 3/4 of a mile! What follows is a recounting of my experiences in this competition, including my actually using that completed F-Class rifle in its very first matches:

Tuesday—June 24th

This day consisted of Palma Team competition as well as those competitors wishing to practice at 800, 900, and 1000 yards. Those practicing and not shooting in the Team Match, were assigned two shooters to a target at each relay. Firing was originally scheduled to begin at 8:00 AM, but the weather reports from the night before did not look promising. By the time I pulled into the range at 6:30 AM, the dark clouds had indeed gathered, and it started to pour. However, by 8:00 AM the rain had fortunately stopped, and firing finally commenced an hour later.

What I wanted to accomplish on this first day of shooting was to: 1. Verify my sight settings on my Musgrave Palma rifle; and 2. Give myself the opportunity to finally sight-in my F-class rifle at distances beyond the 200 yard limitation of my local club range. Other shooters have told me that strange and magical things happen to bullet accuracy at long distances, so I knew that I needed to prepare myself for the unexpected.

The range conditions were overcast skies; 80° F; and constant 2-5 mph winds from the 10 to 4 o'clock position. I shot during the 2nd relay, where my Musgrave did not disappoint me, and was sighted-in after only 3 shots. I then put it aside and broke out my U.S. Model of 1917 Winchester F-Class rifle and set it up on my new rests—hoping that the gods of shooting would smile upon me, and be rewarded with shots on target the first time out of the box. After putting on the elevation suggested by my ballistics program, I then let loose with my first shot with much concern in my soul. My target was **not** pulled down into the pits to be scored. I thought, uh oh. Then my scorer said, "Do you see the 3 clumps of weeds on the ground in front of your target? Well, you hit the dirt in front of the middle clump." Eureka! I was close! I needed another 10 clicks to get to the bottom of the target. After two more shots, and two more additional minutes of elevation, I was rewarded with 2 X's. I then said to myself "That'll do."

By the time we got to 900 yards, the temperature had risen to 90° F. And when we finally moved back to 1000 yards, it had climbed to a very uncomfortable 95° F. At 900 and 1000 yards, I used my ballistics program suggestion of an additional 10 clicks elevation at each distance for my F-Class gun—which worked perfectly each time. After performing all the work on this rifle over a period of one year, it was **very** satisfying to get 2 tens and 2 X's at 1000

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yards—even if it was practice.

Wednesday—June 25th

This was our first day of competition, with range conditions that consisted of a haze all day long, temperatures that rose to 96° F, high humidity, and a fairly continuous 5-10 mph wind that, again, blew from the 10 to 4 o'clock position. This wind would switch frequently from any direction, and was in a word, maddening. We often saw the two flags, which were positioned in the middle of the range, one at 200 yards, and the other at 400 yards move in opposite directions—at the same time!

I was quite satisfied with my Palma scores on this day, ending up with a total of 401-4X out of a possible 450 (15 shots for record at each of the three distances of 800, 900, and 1000 yards). While my score was nowhere near what the other experienced shooters were getting, it was a personal best.

In the afternoon, the 1000 yard Individual Any-Sight Match was held, where I fired my F-Class rifle in its first competition. This match consisted of unlimited sighters, and 20 shots for record, in 30 minutes. The wind during this match stayed fairly consistent from the 10 to the 4 o'clock position—without too much gusting. I was ecstatic over my final score of 191 out of 200. Not bad for my Dad's 90 year old rifle—albeit highly modified!

Karin and Earl Liebetrau.

Thursday—June 26th

This day was our second day of competition. The weather was again hot—94° F by noontime—and windy. Due to my foolishly not keeping proper track of my sight elevation adjustments on my Musgrave, I had to use some of my record shots to get sighted back in. In Palma competition, you are allowed unlimited sighter shots at 800 yards, but only two sighter shots at each of the 900 and 1000 yard distances. As a result, I ended up with a disappointing Palma score of 354-3X. You can be sure that, in the future, I will document all of my sight changes. We all live and learn.

In the afternoon at the 1000 yard Individual Any-Sight Match, we all had to contend with the crazy wind shifts. I found out first hand what "boil" looks like, and what terrible things it would do to your scores if you do not know how to read it properly. I counted myself very lucky to end up with a 173-2X on this day with my new F-Class rifle.

After the 1000 yard Any-Sight Match was over, **THE** match that I had been waiting for—the special 1200 yard Match—was due to start at 3:00 PM. This match consisted of unlimited sighter shots, with 10 shots for record, with a time limit of 15 minutes. The only prerequisites for this match were telescopic sights, 6.5mm minimum caliber, and muzzle velocities of at least 2700 fps.

When I started my F-Class rifle project, my goal was to be able to compete not just to 1000 yards—but all the way out to 1200 yards. My load development was focused on ensuring that the 190 grain Serria HPBT Match King bullet that I was using would still be supersonic out beyond this same distance—a lot to ask of the venerable 30-06. And now I would see if all of my hard work would finally bear fruit—it was Showtime.

There were about 28 individuals that had originally signed up for this match, but the heat and wind conditions caused many of them to reconsider and drop out—they had had enough of the nasty abuse dished out by the decidedly unfriendly weather. Eventually, only 15 die-hards pressed on and competed at this very intimidating distance. Once everyone who was going to shoot assembled at the firing line, we drew our firing points and relays out of a hat, and got ourselves ready.

The Winnequah Gun Club has only held a few matches at this distance in the past. And a wide variety of rifles and chamberings were in evidence at the firing line. Earl Liebetrau, who was

Continued on next page

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My F-Class Rifle Project (Conclusion) Part III

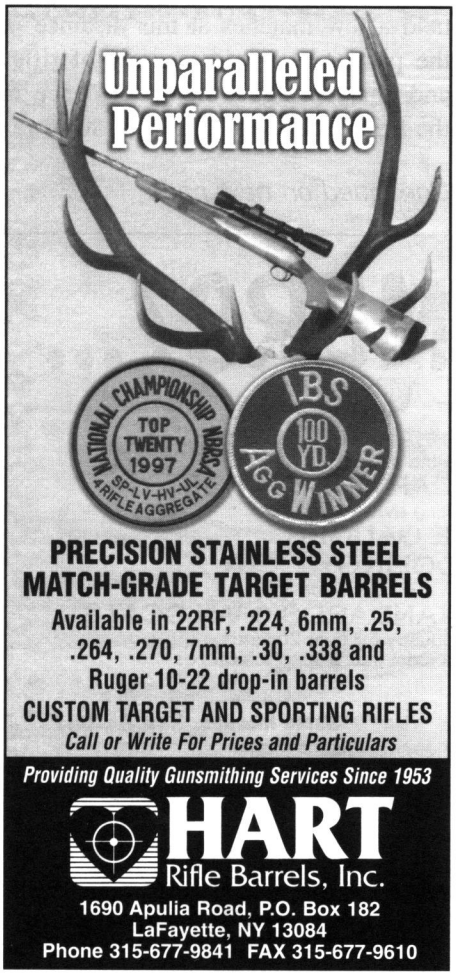
Continued

the range officer, asked each of the participants to identify on the backs of our score cards, information about our rifles and ammunition, chronograph speed, etc. He and his wonderfully patient wife, Karin (match organizer & scorekeeper extraordinaire), would use this information in organizing future matches for help in determining what cartridges and hardware would work at this distance.

When it was my turn to shoot, I came to the line with sweaty hands, and it was **not** due to the high temperature. To be honest, despite what my ballistics tables told me, I was not at all convinced that yours truly could reliably hit a target out at this distance even though I felt I did very well at 1000 yards. But at 1200 yards, and in these wind conditions—hey come on, 3/4 of a mile? It was difficult to even see the target with the naked eye! So, I set up my gear, and tried to focus on the task at hand. It was interesting to note that unlike the previous matches where individual performance kept most everyone to himself and focused; such was not the case at this match. Everyone was helping one another and freely making suggestions to the shooters on the line. I would hazard to say that this was happening because we knew we were all collectively pushing the envelope with firing at this distance—regardless of experience or hardware.

When the time came to commence firing, I raised my elevation 20 clicks as indicated by my ballistics program, and carefully touched off my first shot. My target did not go down to be scored—just like what happened at the 800 yard line on Tuesday. I thought, uh-oh, it's all over now. Then my spotter said that I hit low in the dirt just in front of the target, and to bring my elevation up at least four minutes. Well, I put on an additional, conservative, 2 minutes, fired again, and was rewarded with a 6 at 6 o'clock at the very bottom of the target frame. I was on the target in 2 shots at 1200 yards! I have no doubt that I was grinning from ear to ear. I put on an additional one & a half minutes and got a solid X. I then told my scorer "Let's go for record"! My first shots were all 10's

The view from the 1200 yard firing line.



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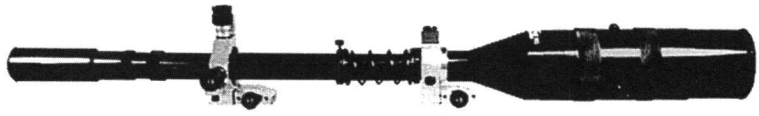
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and 9's, and I was doing my very best to estimate the wind—which was still a considerable problem. Even though the 10 firing points at the 1200 yard firing line are somewhat sheltered in the trees, once that bullet flew out into the open over the 1000 yard firing line where there are 22 points, the wind hammered it just like it had for the last 3 days at the shorter distances. Well, my 8th shot was a high 7. I was so focused on correcting for the wind, I never even thought about adjustments needed to compensate for the changes in cloud cover (big mistake). My 9th shot was a 6 at 6 o'clock. I brought my elevation back up (another big mistake). I was chasing the proverbial spotter. My last shot for record was a 6 at 12 o'clock. I guess we all live and learn. But, looking at the bright side, I still had all 10 shots on target, and ended up with an 83 out of a possible 100—with NO misses!

By the way, the competitor that took first place in the 1200 yard competition with a score of 93.2, was Scott Liebetrau (Earl's son), who used a custom rifle chambered in the currently popular 6.5mm X 284. And guess what action he used? Yep, it was the same as mine, a Winchester U.S. Model of 1917. The word is definitely getting out about that old rifle's capabilities.

Friday—June 27th

This was our third, and last, day of competition. The weather at 7:30 AM was absolutely beautiful, with scattered clouds, and temperatures in the mid 70's. Wind in the early morning was a dead calm until about 9:00 AM. And yes, from that time on, it steadily rose to about 5-10 mph—and like on the previous three days, was from about the 10 to 4 o'clock position. I was fortunate to pull relay number 1 in the morning Palma match, and thus able to shoot first during the early morning dead calm. It was difficult to believe—every wind flag actually hung limp! I shot the best I ever have at 800 yards where every shot felt good. I now know what it feels like to get into "The Groove", and ended up with a 145-5X out of a possible 150.

When the time came for the 2nd and 3rd relays to shoot, they again experienced our old friend the wind, with shifting gusts, which continued the rest of the day. My scores at 900 and 1000 yards, were much the same as the previous day—except I had a miss in the middle of the 900 yard string. Right after I put on a minute of right windage, the wind shifted 180° just before my shot broke, sending said shot right between my target and the one to my right. At 1000 yards, I even managed to crossfire on the target to my left. I apologized profusely and vowed to get new eyeglasses before the next match. And yes, of course, this shot which would not count was a solid "X". You pays your money, and you takes your chances. My final score was a 385 out of a possible 450. Not the best, but by gosh, not last place either.

After the Palma Match, I again participated in the 1000 yard Individual Any-Sight Match with my F-Class rifle. The wind was still awful, and if anything, the speeds picked up with even more frequent gusts that reached between 15-20 mph. I struggled the whole time with trying to out-guess the wind and eventually ended up with 172 out of 200.

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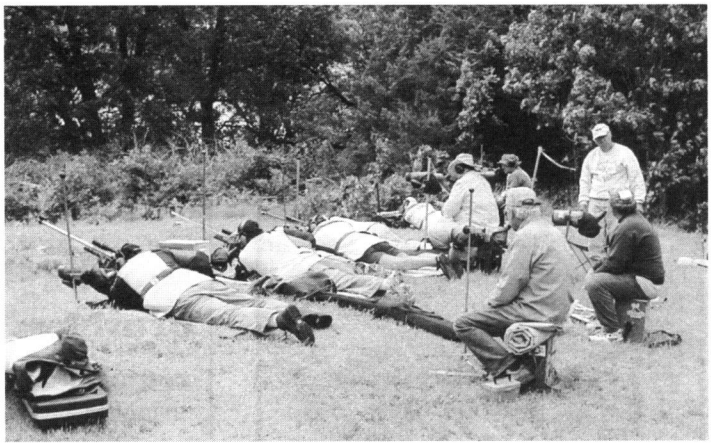

The 1200 yard firing line.

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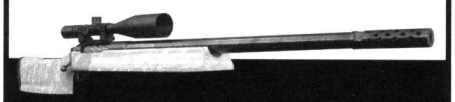
Lloyd Gallager won the CBA National Heavy Gun Tournament.

Bill Martin set a new 1000 yard 10-shot record.

Alan Nyhus won the Mainville, PA IBS Score Nationals, 100 - 200 yard Grand Aggregate.

Jim Saubier won the IBS Varmint for Score Nationals 200/300 event.

Mark Pharr won first Master at the 2003 Smallbore (22 R.F.) Silhouette Nationals in Ridgeway PA with his standard rifle and was third Master with his hunting rifle. **Mark** also won the Louisiana State Championship Top Gun, 2 gun aggregate and Hunter Class Rifle.



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My F-Class Rifle Project (Conclusion) Part III

Continued

Considering the circumstances, I was quite happy with the score.

Summary

Since I am still quite new to the long-range shooting game, I didn't generate the scores needed to be seriously competitive in the matches that were held over those three days. I certainly need more experience with adverse wind and lighting conditions—but I found that the other competitors were always willing to give advice to a struggling new shooter who was desperately trying to shoot well.

Of one thing I am quite certain, my lower scores were definitely not indicative of the capabilities of the hardware I had used:

– My old Musgrave is still a phenomenal shooting instrument (I found out not long ago that these rifles have a long history of winning in international Palma competition).

– My pride and joy—my "new" F-Class rifle was a sheer joy to shoot. Even though the vast majority of the competitors (3/4 of which were High Masters) were using custom rifles with single shot bench-rest actions through-out the competition—I did not feel at all handicapped since I built this rifle myself, and knew it intimately.

After the matches were over, it was very gratifying to note that with the exception of my initial sighter shots, I had NO misses with my home-built rifle in the 4 matches I participated in during those three days of competition.

1. My 4-14 x 50 IOR Valdada scope was superb. I can honestly say that its 14 power magnification at 1200 yards was definitely up to the task at hand. Its image clarity was just outstanding, and was actually sharper and brighter than my Kowa 821 spotting scope. I also felt that my choice of its MP-8 reticle was perfectly suited for this style of competition.

2. My own design of mounting the scope on the top half of my barrel block worked perfectly.

3. The 30-06 Springfield cartridge with a 190 gr. bullet out of my 32" Krieger barrel was indeed still supersonic out beyond 1200 yards (theoretically, I'm good to about 1350 yards). I personally feel it was the best cartridge the U.S. armed forces ever used, and it will definitely still get the job done.*

4. My laminated rosewood stock looked gorgeous, felt as solid as a rock, and rode the bags smoothly and consistently every time.

5. My Dad's old Winchester Model of 1917 action performed perfectly. The Old Soldier has definitely not faded away.

In short, I had the time of my life.

* If the Winnequah Rifle Club ever entertains at match out to 1500 yards, I'll be ready. You see, I found out during my load development that if I were to use a VLD bullet in my 30-06 F-Class gun, I will still remain supersonic out to that distance. Is that cool or what!

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BRASS Resizing And Bench Gun Movement - PART 6

BY JOHN LAKE

- the "CB" earless rear bag design
- filling & shooting
- care & feedings tips

Part 5 found some promising alternate bag fill materials. It concluded by indicating a new rear bag design might also improve performance. The decision was made to range test selected fill, and also explore having a custom bag made.

The "CB" earless rear bag design

Part 4 in this series noted with best care, rear bags were able resist my LV gun's lateral shift unpredictability anywhere from 3 to 7 firings. The gun then quickly returned to the full shift movement. This is when the observation occurred that the area under the bag's ears was softening. Zircon was either migrating from the main bag beneath as the ears were stressed by firing, or was displaced when the shift causing movement leveraged the left ear. Either way, fill was evacuating the area beneath the ears, weakening their foundation. This area in the base compartment was located at or very close to the highest point in conventionally designed bags (see photo 1). Like water, the zircon was moving from its highest location and seeking its lowest level.

The vicinity beneath the ears is a critical support area, and design changes to remedy the loss of support seemed possible. The first solution to come to mind was simple horse sense; change the area under the ears from being on or near the bag base's highest area. How could that be done? Simply eliminate the three compartment design.

A one compartment rear bag was envisioned to replace the conventional three compartment design found in most bags (one comprising the bag's base, the other two the ears). A trapezoid shape was drawn, with a deep notch in the center. This was intended and dimensioned to fit about half way up the Edge's butt stock to where the "V" shape from the bottom reverses toward the comb. The notch was about 2" deep, and 4" long. It functioned as deep, long, rabbit ears (see drawing 1, "CB Bag Design").

There were two purposes for the extended depth and length of this notch. The first was to put as much distance as practical between the critical bottom and side stock support areas of the notch, and the location of the bag's highest point, now the very top of the entire bag. If significant fill settling or shifting occurred, fill would leave from the bag's top and not reduce rifle support, as occurred with conventional designs (see dotted areas, Drawings 1). The second reason to exceed the ~1" depth and 2 1/4-2 1/2" length typical of

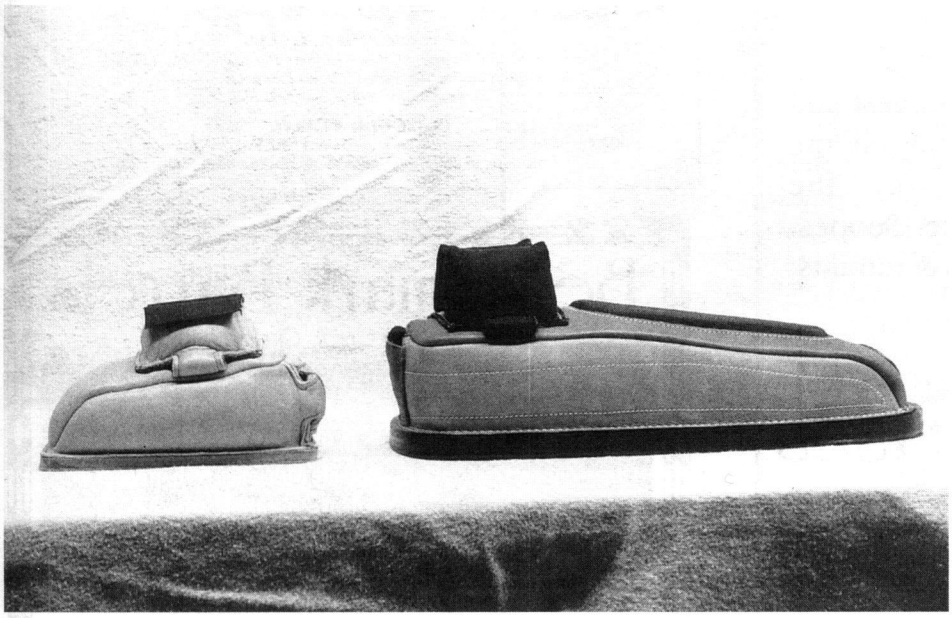

Photo 1. L to R Protektor 14A, Edgewood "Gator" bags.

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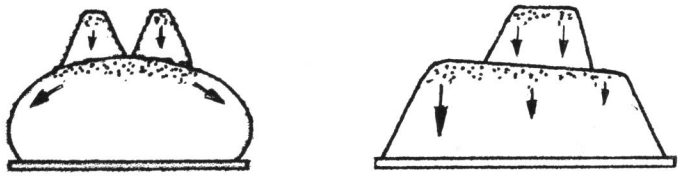
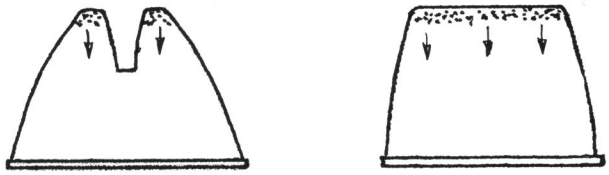
DRAWING 1

Conventional Bag Design



CB Bag Design



Dotted areas indicate locations from which filler will migrate

Arrows denote locations of primary bag expansion & direction

Brass Resizing And BenchGun Movement – Part 6

Continued

rear bag bunny ears was to provide as much support and surface bearing area as possible to confront the lateral shift peculiar to my LV gun.

Drawings were sent to several bag manufacturers, with request for input and feasibility. Nothing positive resulted, and question was raised as to whether in fact such a bag could be made. That was discouraging, considering their expert knowledge, but the nagging desire to learn if the design would provide improvement could not be stilled. Time to put up or shut up. The decision was made; a formal design was drawn up, templates created, assembly strategy planned, time on the family sewing machine negotiated, and a yard of Cordura ordered. Cordura was selected over leather simply because our household sewing machine was not considered capable of tackling leather. My tailoring and sewing learning curves slowly rose, and after a bunch of hours something that actually looked like a rear shooting bag emerged:

Filling & Shooting

First fill had to be zircon. This was to compare performance with this standard fill, and also because it would be easy to remove (in this case its flow characteristics an advantage). At the range, all the usual setup procedures were undertaken, including using the stock profile form to tap down the notch. This was a conventional setup as one would normally shoot off the bench. The initial results were not encouraging.

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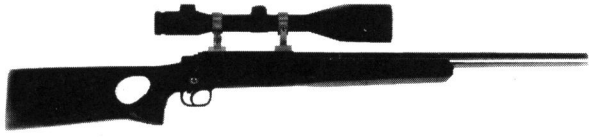

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The 1 to 1-1/2" shift to the right was still there, plus a new 2-3" drop in point of aim was now also present. The latter indicated the notch area was rising! Was my thinking or design misguided? The loss of sand from the area under the notch had been eliminated, but now the opposite was occurring; the quantity of sand there was increasing.

The bag also showed evidence of settling. Maybe that was due to it being new, or the 100% Cordura construction, though precautions had been taken during construction to minimize stretching. There might be a need to bone up on the polymer (Nylon) that Cordura is made of, to learn of its elongation (stretch) and memory (elasticity) characteristics. These might pose problems particularly when changing from zircon to one of the lower density fills considered worthy of testing. If elongation and memory were factors, it might take a day or more for the bag to stabilize (retract due to the reduced load stress of the lower weight fills, and them being less inclined to flow). That would have to be kept in mind if strange things began to happen. The good news was that grouping while barrel conditioning with a different powder was averaging in the high 1's to

Continued on next page

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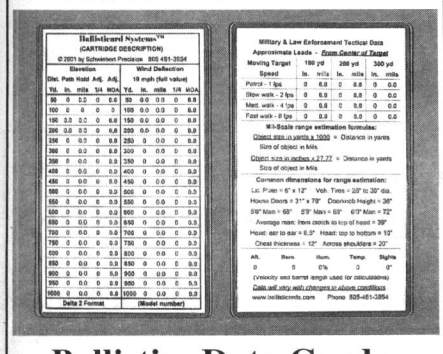

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Brass Resizing And Bench Gun Movement – Part 6

Continued

low 2's without regard for wind or wind flags up, so gun performance did not seem adversely effected. A topping off with zircon was decided upon to check off the "max pack" option before changing to other fills. This would have to await another day at the range, as closing time was approaching.

It was decided for the next range outing to employ the cradle setup and sand bags to eliminate direct contact. Testing began with zircon "max packed", which fared no better than did the normal zircon fill quantity. The bag was emptied and refilled with my test's top performing candidate, the coarse well granules. This involved careful attention to insure the bag was well filled without being overfilled, accomplished by tapping and lightly bouncing it on the bench during filling to assure the material had settled and nested well against itself. Five of the first seven shots shifted 0.2" left, the other two mixed in this set only 0.2" right. This string started out with a 2.1" point of aim drop, and stabilized three firings later with repeat 1.1" drops. I was both delighted and mystified by the first "hands off" elimination of the always present right moving point of aim shift. The continued point of aim drop however was a serious concern. Did the new fill eliminate my long standing problem, and the custom bag design introduce a new one? Sometimes anxiety and impatience pays off. The cradle was removed, and my gun set up in standard free recoil shooting mode. This again included the forearm cushion rest which helped obtain consistent shoulder position behind the rifle, and added to the rifle this outing, a special high friction tape on the EDGE's butt to prevent slippage upon shoulder contact. Ten more rounds were then fired. A constant 0.2" shift left and drops of from 0.4" to 0.0" (averaging less than 0.2") resulted. I loved the results, but not the

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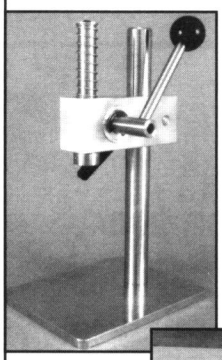

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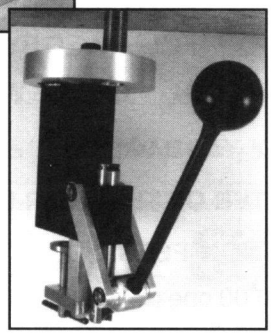

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unexplainable reversed movement to the left. Why would just a change in fill type do this? Unexplainable good results may not be reliable. They may disappear as easily as they came, typically at the worst possible moment, and without understanding of the cause, restoration or control would be doubtful.

On to refill with the paver sand before the range curfew occurred. Same procedure was used to fill the bag as the coarse gravel. Shooting was performed as last described (conventional free recoil). Six times the point of aim shifted left 0.2. to 0.4", twice right 0.3" (similar movements as with the coarse well fill but slightly larger). The drops however were much more pronounced, starting at 2", and stabilizing at 1". This performance could be related to the comparative settling test results presented in this series' part 5 versus the coarse well fill's performance.

Back home I wondered if the pavers sand would perform better when its finer sand size particles were removed. The paver sand was filtered through 1/8" grid wire cloth and then window screen (material that did not pass through the latter collected). This removed both the largest pebbles and sand sized granules. Its particle size range was now identical to the coarse well mix, though it definitely contained more particles on the large size of the screened range (see photo 3). A funnel flow test showed this modified pavers sand to be within 10% of the coarse well fill's low flow rate. The settling tests were also improved about the same amount.

The modified pavers sand warranted range testing in my new bag. If it improved that type of fill's performance, sufficient quantity could be produced to do some experimenting with the conventional bags, even the large Edgewood "Gator" bag. Upon filling, another reason was found to like the Edgewood bag's Cordura front pad; it acted like a bladder, swelling before the thick base would, thus helping to prevent bottom bulge causing rocking. The modified paver fill appeared too coarse for the ears, and a finer screening was undertaken, this time through a large kitchen strainer. Its mesh was

Continued on next page

Photo 3. L to R: Screened pavers sand, coarse well screened material.

Brass Resizing And Bench Gun Movement – Part 6

Continued

larger than window screen, and removed the larger pebbles. What was left was now closer to the coarse well in a size. This proved more conformable in the small ear compartments, yet still seemed to resist flow okay.

Late December, and a temperature in the mid 50's at the range. Gotta love it! The results unfortunately were not as enjoyable. The CB bag filled with the modified pavers sand did not hold the point of aim as well as it did when filled with the coarse well fill. This possibly indicated two negatives; the modified paver fill was not as effective as the coarse well fill, and the CB bag design was less stable than I would like (also so indicated when filled with the zircon).

Next under the gun was the Edgewood bag filled with the modified pavers sand in the base, and the same further screened to a smaller size through the kitchen strainer in the ears. The point of aim hold improved over performance with zircon fill, but was still greater than the CB bag with the coarse well fill.

Last up was the small protector bag filled with the coarse well fill in the base, and medium/fine blend in the ears. Here again improvement was achieved, close to that with this fill in the CB bag. The point of aim shift right maintained a consistent 1/4" to the right, and a drop of less than 1/4" per firing. All fine and good to have this fill work acceptably well in a conventional bag, however I was not happy having as the top performing fill discovered an exotic material that was painstaking slow to obtain.

Front bag fill evaluation

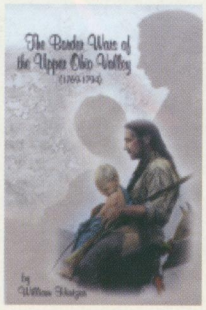
Now that the rear bag design and fill evaluations had been settled, it was time to look at a fill change for the front bag. This was not done at the same time as the above, since too many variables would confuse the cause of any performance changes. The properties desirable for a front bag fill would be the same sought previously; flow resistance, firing energy absorption, and durability (resistance to breaking down into fine particles.

The compatibility trend observed of smaller fill particles for smaller compartments was heeded, and the well mix of fine and medium particles was tried. Initial results have been good. Minimal settling and shifting have occurred, and accuracy seems unaffected. If there is any accuracy improvement to be found, it will likely be almost three places out in group measurements, and/or possible reduction in vertical, were that a problem.

Conclusions

While my CB bag held promise, its sensitivity was a concern. A means to control sand buildup below the notch was conceived, but it would require another prototype. I also wondered if leather would provide a stiffer construc-

Easy Reading...



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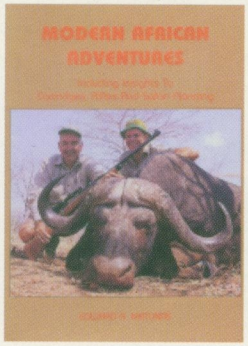

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tion. A substantial base such as found on newer bags might also be an aid to structural strength and stability. More design development seemed necessary. With the proper fill, it should provide the control sought.

The fill substitutes tested were a definite improvement over what I was finding from zircon. The coarse well material will now be my primary fill, but a more accessible material of like performance must be found. It would take at least three years to collect a sufficient quantity of well material to fill the Edgewood Gator bag. When a minor spill occurred during transfer from bag to bag, such as half a teaspoonful, it represented a week or more of well collection. Further evaluation in group shooting would have to be undertaken to confirm fill performance, but it appeared to be a "forget about it and go out and shoot" situation.

It may be possible that the pocked cinder-like surface of the well particles interlock or resist sliding over each other better than the cleaved surfaces of the pavers' particles, regardless of manipulation of the latter by screening. This is not good news, and as indicated, the search is on for good performing readily available substitutes.

Bag squeezing technique was tried with the new fills, and seemed to work fine. They posed no undue resistance and provided the sought point of aim movement. I was not even aware of the fill change. Perhaps the extent of compression needed to accomplish aim adjustment was below the "crunch sound" threshold. It seemed that once the bag was squeezed to adjust point of aim, it held that adjustment better than with zircon, and was more tolerant of involuntary variations in hand pressure.

One last observation regarding zircon bag fill. If it works fine for you, your bag and the zircon fill are synchronized. It's probably packed just right; not enough zircon to bulge the base, but enough to fill the bag with little room for shifting. Attaining this is probably a

Continued on page 83

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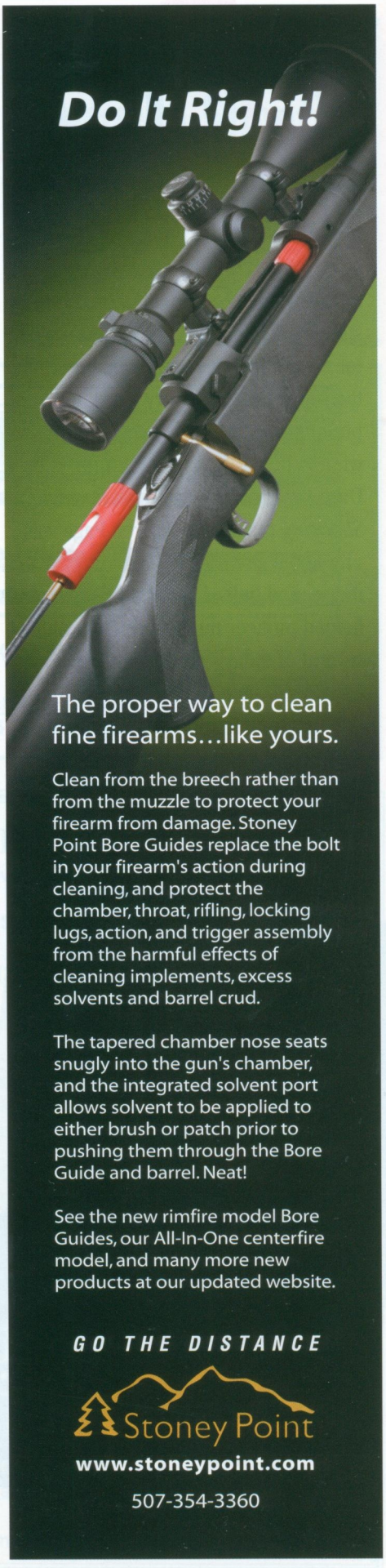

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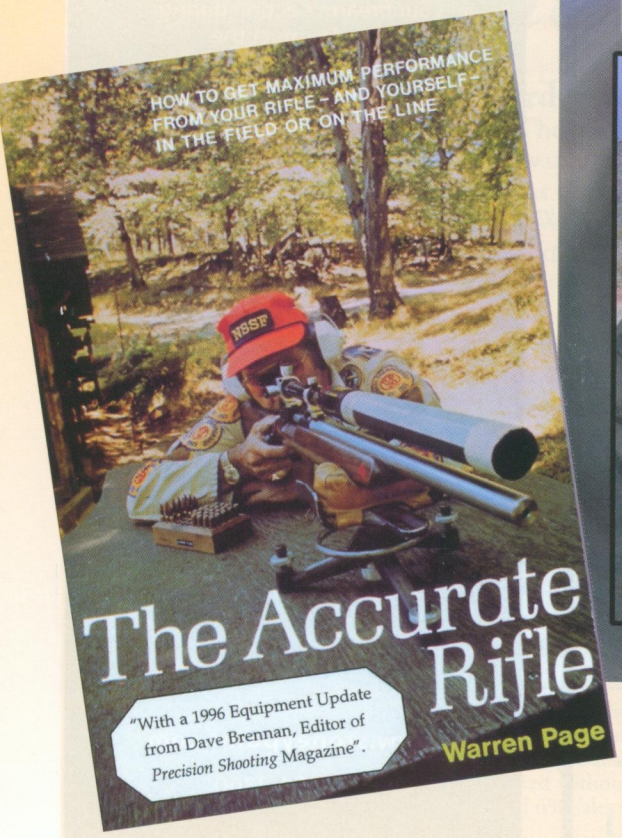

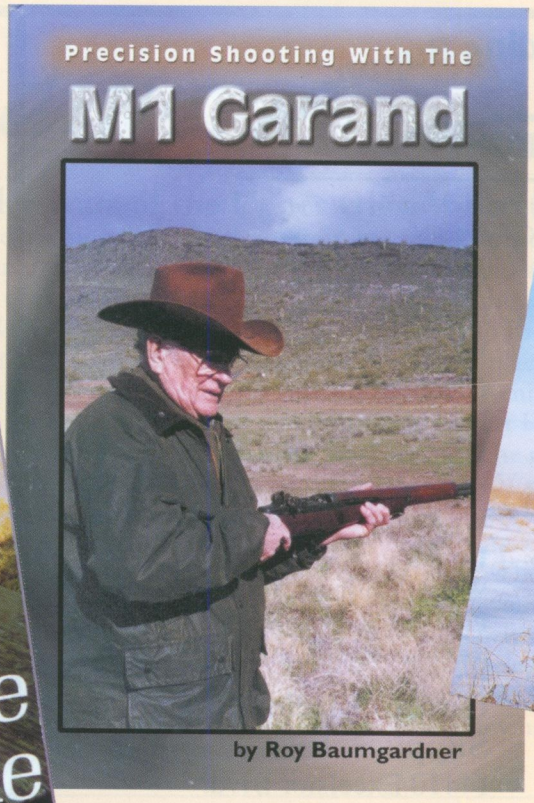

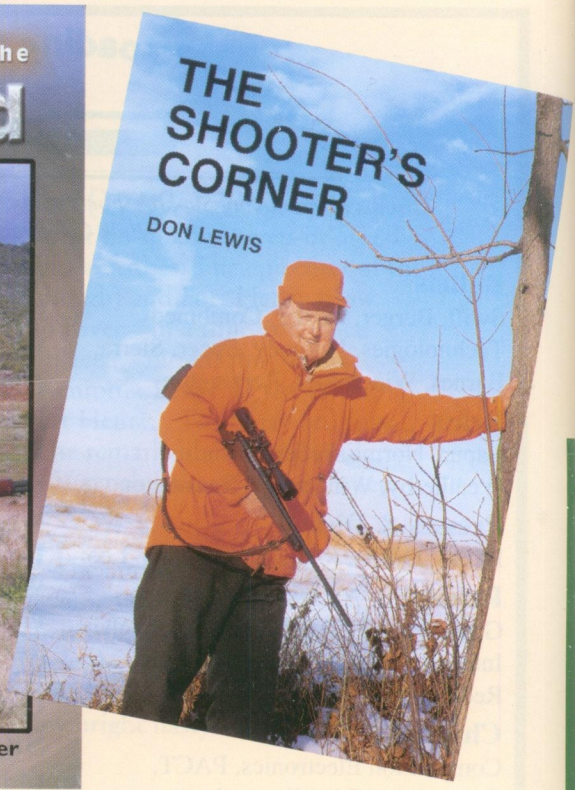

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Brass Resizing And Bench Gun Movement – Part 6

Continued from page 81

lot easier in a small bag, such as the Protektor cited in this article. It may also support my observation that the smaller the compartment, the smaller a fill may be.

Care & Feedings Tips

Attach to your filling funnel the largest diameter thin walled tube you can insert in you bag's spout(s). 7/16" is the largest I found to fit in many bags, and it was a blessing when working with the coarse bridge prone materials. Such tubing is available in hobby and some hardware stores in brass or aluminum (brass being preferred, as the aluminum may be annealed, therefore bends easily, and is of heavier gauge, which either reduces the i.d. or increases the o.d.).

Cutting two or three rectangular slots (~1/4" wide by ~1" long) close to the end of the fill tube is also beneficial. This allows fill to continue to flow if the tube is inserted too far into the bag, and its end obstructed. This also applies while emptying bags, as the fill level can go below the tube opening. A Dremel tool with a reinforced cutoff wheel quickly produces the slots easily with the tube vice-held.

Bone dry material is easiest to work with, and don't forget that filter mask!

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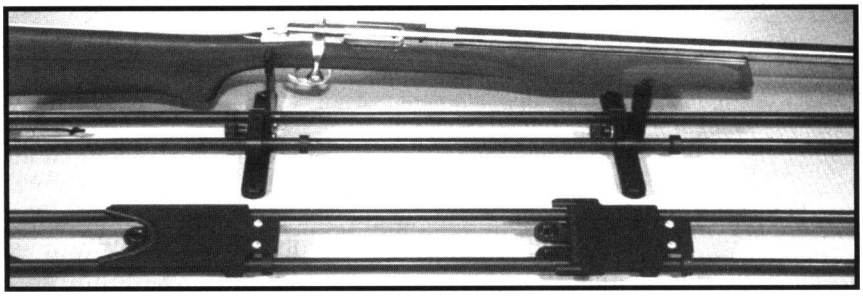

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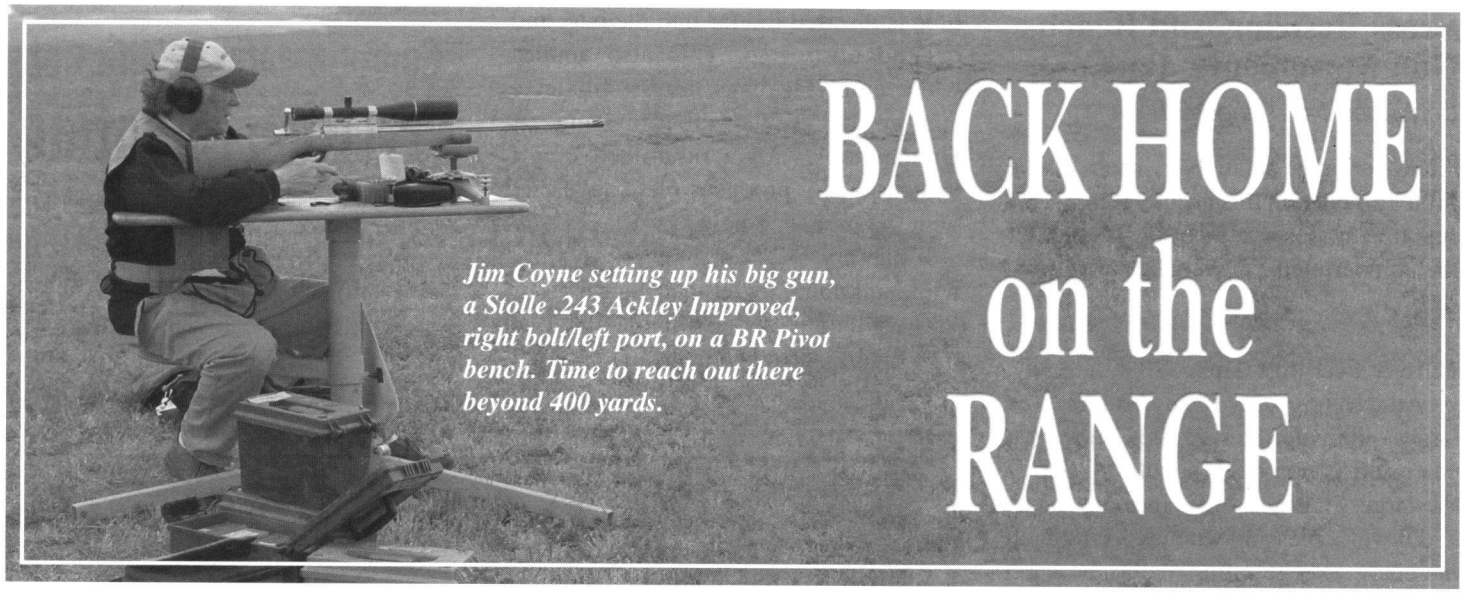

BACK HOME on the RANGE

Jim Coyne setting up his big gun, a Stolle .243 Ackley Improved, right bolt/left port, on a BR Pivot bench. Time to reach out there beyond 400 yards.

BY JIM COYNE

It was a perfect morning—bright clear skies, with just a minimal breeze—a rarity on the perpetually windy prairie. At 7:00 A.M. we were five miles south of Kyle, a tiny town on the Pine Ridge Indian Reservation in southwestern South Dakota. As we turned the Suburban off the dirt road and into the pasture, hundreds of prairie dogs scampered from mound to mound, chirping, protesting, sassing us.

"Wow," we said, almost in unison.

My brother Pat and I were there to shoot prairie dogs together for our tenth consecutive year. With us was our nephew Craig Tystad, PR Director for Time Warner Telecom in Denver, joining us for his fourth year.

"This is the day we worked for all year," I said. "Welcome home."

Craig maneuvered his Suburban around the fringes of the field to a saddleback ridge overlooking the huge prairie dog town. As the dogs yipped at us, we opened the back doors and started pulling out our gear: shooting tables, gun cases, cleaning table, ammo canisters, lunch coolers. I took the BR Pivot table, new last year, and set up on the left flank. Pat and Craig took the two Bob Jourdan built tables and set up to my right, each about 30 yards apart. Twenty minutes after we entered the pasture, I had launched my first "flying carpet" with my Dakota .223. Pat and Craig were starting the day with their .223's as well—Pat's a Remington 700, Craig's an ancient but still worthy M70. No need for the big cannons at this range. We had plenty of shots at 100 to 200 yards. We were in prairie dog paradise.

The Coyne boys packing up their rolling home on the range, at the end of a successful four day hunt.

If the road to hell is paved with good intentions, the path I took to this heavenly summit is one of intentions realized. It is a journey of over ten years, and the catalyst throughout that time has been *Precision Shooting* magazine.

The journey actually started earlier, but I won't bore you with my complete autobiography. In as few words as possible, I'll tell you that I was born and raised in Southeastern South Dakota and grew up with an obsessive love of guns, all kinds—the product of a misspent youth reading Jack O'Connor in "Outdoor Life" and Warren Page in "Field and Stream." I have two older sisters who married brothers who were raised on a leased ranch near Kyle. Visiting the ranch as a boy, I shot prairie dogs in the ranch pastures with a .22 rimfire. Craig was born and raised there, and later, Pat, who is eight years younger than I, spent three high school summers working for Craig's dad on the ranch. The Tystads left the ranch in the late 1970's and moved to Nebraska. But we still know our way around these parts pretty well.

After college, I lived in New York City for the next 30-odd years, and didn't hunt or shoot at all. I still live in New York City, but about fifteen years

ago, something of my boyhood stirred in me again, and I began to acquire the guns I'd dreamt of as a youngster on the plains.

At first the rifles were all blued steel and walnut, the shotguns over-and-unders, the pistols of every shape and caliber they came in. Then a colleague in the ad business mentioned *Precision Shooting* to me, and I entered the world of what I call "the thousandth-of-an-inch difference." Now the rifles come with composite stocks, the barrels stainless and sometimes fluted, the triggers Jewell.

Living in a New York City apartment, with a career in advertising, I found the **PS** articles on competition benchrest shooting a bit intimidating. But as a native South Dakotan I related early on to Boyd Mace, whose prairie dog stories in **PS** fascinated and amused me, and I figured maybe I could do that much.

In the beginning, we shot for two or three years around Rapid City and Sturgis, wherever we could get access to dogs, and used factory guns and ammo. We felt we were doing ourselves proud. Things started to change, however, after I read a **PS** review of the AMT Custom Shop Challenger 10/22. I had no scruples about calling strangers on the phone, and I did just that: I called Sam Parades and Ron Herbertson, the accuracy gonzos in California who were building superaccurate rimfires on the 10/22 action. I bought one from them (which I still have), and later Ron and Sam introduced me to Chuck Cornett, the **PS** columnist and self-styled "Dogfather." For two seasons Pat and I attended Chuck's Prairie Dog Conferences in Valentine, NE. I liked meeting some prominent industry figures there—in particular, Roy Hodgdon, and Walt and Eunice Berger.

It was there I came to realize that our factory rifles were hardly state of the art. And it was at one of these shindigs that we met Randy Melvin, the proprietor of Bull Mountain Rifles in Billings, MT (a **PS** Advertiser). Randy is a highly articulate gunsmith with a keen sense of humor. He also has enough patience to spend hours on the phone with me, discussing the niceties of accurate rifles and the art of reloading for them. From then on, under Randy's tutelage, things changed in earnest.

I sold most of my inappropriate rifles, had Randy customize some others worth saving, and had him build a couple of new ones for me. From an over-the-hill, Jimmy-come-lately shooter, I became a dedicated, if thick-headed, devotee to precision accuracy. It took dozens of orders to Sinclair and Russ Haydon, hundreds of phone calls to Randy, lots of trial-and-error, but today I think I'm ready for whatever lies in front of me. This morning, it was about 500 prairie dogs who seemed to have forgotten we were there...and watching.

It was early in the shooting season—late May, with the pups up and about, and the grass low enough to see the dogs even when they're down on all fours feeding. They haven't been shot at much, if at all, on the Reservation at this point, so it's easy pickin's, especially early in the morning.

"Double!" I hear Craig yell. He will shout it again at least two or three times a day for the next four days. He must have some experience in bowling—he manages to line up his targets like tenpins. But doubles, and multiple hits on a given mound, are not unusual at this time of year.

I like my little Dakota .223. It came from Dakota with a Jewell trigger, and it's light enough to walk around with, if that's your pleasure. Being *Precision Shooting* types, however, we prefer to shoot from the bench, with front pedestals and rear bags. That's where my

Continued on next page

Pat Coyne at the cleaning table, while the idle rifles soak.

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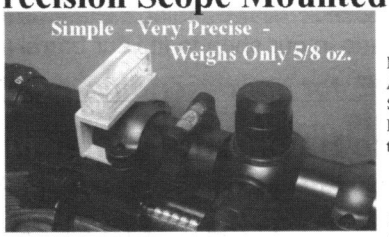

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Back Home On The Range

Continued

40-X takes the middle ground. Randy rechambered it for me from .223 to .22BR, and this year I formed my own brass for it. It is an incredibly flat-shooting rifle. Very often, a one-click correction is all it takes to convert a miss into a hit. My HS Precision Remington 700, also tuned by Randy and rechambered to 220 Weatherby Rocket, with a Krieger barrel, gets me out to 400 yards with ease. After that, usually late in the day when the wind dies down, I bring out the big bopper, my .243 Ackley Improved. Randy built it for me on a Stolle right bolt/left port action, with a McMillan Hunter Bench Rest stock and a Hart 10-1 barrel. All these guns, except the Dakota, have muzzle brakes, and all have Jewell triggers. All wear Leupold glass—the .223's 4.5 x 14, the Swifts and the BR 6.5 x 20, the Ackley a superb LPS 8.5 x 25. And all the stocks, with the exception of the walnut-stocked Dakota, have been repainted a soft pearl gray, the better to deflect the relentless prairie sun.

Brother Pat, meanwhile, who in real life is a dentist with a thriving practice in Rapid City, is mowing down dogs by the dozens with his HS Precision Remington 700 Swift, which Randy also improved with a brake of his own design and a Jewell trigger. In the course of these four days, Pat and I will shoot some 1,800 rounds—ammo I spend the entire winter reloading in my garage in PA, my weekend home the past two years. I don't like reloading in the field—too much wind, too little control—or in the evenings after dinner—too much fatigue, especially after a glass or two of wine. I prefer to estimate our needs, load ahead at my leisure and ship it to Pat in the spring.

Pat Coyne at his Bob Jourdan bench, ready to launch another prairie dog with his HS Precision Swift.

I reload using only single-stage precision techniques, which includes weighing every powder drop. Tedious, yes. Rewarding? You damn betcha! I load Hornady V-Max bullets for all our guns—50's for the .223's and BR, 55's for the Swifts, and 87's for the .243. Randy did most of our load development for us, including a .223 recipe he dubbed "the splat factor load." The aerial acrobatics produced by that concoction are spectacular.

At mid-day we open the coolers and take a break for lunch. Most of the dogs have gone home for their afternoon siesta, so while we feed ourselves we also look to the care and conditioning of our rifles. We try to clean them after every fifty rounds, to keep them sharp and cool and to conserve our ammo. Usually, each shooter has one or two guns soaking while one is in battery. At mid-day we get caught up on the cleaning, so when the dogs come back up to feed again around 4:00, we can shoot until dusk. That's the most challenging shooting of the day, at the longest ranges—400 to 600 yards. The hit percentage goes down, of course, but it's the most fun, because when you hit one it's cause for genuine celebration. Craig and I each have 600 yard kills to our credit, and Pat has any number of 500 yarders. I share credit with Pat for my long range winner—he spotted for me and called the misses until I dialed in the hit. Ordinarily we don't use spotters—the muzzle brakes help us keep our heads on the stock, so we can see the hits ourselves and make our own corrections. This way, everybody gets to shoot full time.

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Come evening, with the dew settling in, we push the last patch through the last rifle and cram our gear back into the Suburban, right to the roof, and head back to Pat's big 35-foot Winnebago Adventurer, which we've left parked in our Native American outfitter's back yard in Kyle. We decided to come back to shooting in Kyle two years ago, after Pat bought the Winnebago, even though it means buying a Tribal license ($80 for five days) and paying a resident guide to arrange access to the fields ($75 per day per gun). It's worth it, to see dogs in these numbers. Ranchers at our earlier venues had chosen to poison their dogs to stave off EPA intervention. On the Reservation, which enjoys sovereign nation status, the prairie dog is deemed a cash cow. With simple Tom Sawyer logic, the local ranchers charge you to kill their prairie dogs for them, rather than spend their own time and money to poison them. Makes perfect sense to me, a shooter, as I'm sure it would to Mark Twain.

But I digress. Back to the 'Bago: We organize our annual prairie safari along military lines. I'm Ordnance—I provide all the guns and ammo and much of the shooting gear for Pat and me. Craig provides his own armament and is Field Transportation, with his Suburban; and Pat is Quartermaster, supplying food and mobile lodging. It works for us, although Pat probably gets the short end of the stick. He is exceptionally generous and does not complain. He is in fact a damn good cook and turns out a full breakfast at 6:00 A.M., packs lunch makings, and serves excellent evening suppers of steak, or pork loin, or burgers, or spaghetti. This year he even rigged up a satellite dish so we could watch TV in the evening. And there we all are, one happy family, back home on the range.

Day Two dawned clear but with a brisk breeze blowing, which tells us a change in the weather is coming. We pretty much finished off a dog town in the morning, so we decided on a second setup in the afternoon. Usually, we like to set up only once a day and shoot all day. It's slow, hard work to load and unload all that gear twice, but we do it if we must, to continue shooting. We found a nice setup in a pasture corner, near a fence line, looking down and across a coulee and into a ridge below at about 250 yards. The wind was still blowing hard from my left. Again I got the BR Pivot table and the left flank, and with the .243 I went to work. After a few rounds I had dialed in the windage at 16 clicks left, and for the next 30 minutes, through 50 rounds, it never varied. I was amazed. I never once had to hold off or change settings. The elevation stayed constant, too, as the dogs scurried up and down the steep ridge, but hardly varied their actual distance from the muzzle. All I had to do was put the reticle on the dog and fire. With the fiftieth round out of the box, I stood up from the table a little dazed. I don't believe I missed more than once or twice. I'd never shot so well in my life. Behind me, Pat and Craig were watching, grinning, Craig's eyes slightly bigger round. It was like I was shooting "smart" ammo—the bullets just seemed to know where I wanted them to go. I felt as though I couldn't miss. And I didn't.

It wasn't always thus. The year before, we were set up in a pasture shooting from below and into a dogtown

Continued on next page

The Tystad Suburban, packed to the roof for the trip to prairie dogville.

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Back Home On The Range

Continued

on a rising ridge. A twitchy wind was gusting hard from behind us. I was on the right flank, again with the .243, and I proceeded to shoot 47 times without a hit. At that point, well, I went a little berserk—flung my glasses, stomped on my hat, assayed a few (dozen) Anglo-Saxonisms. Craig calmed me down, helped me move my table to a better angle off the wind. But ever since then I avoid setups where I'm shooting upward and with the wind behind me. Avoid 'em like the plague. (That's a prairie dog joke, son.)

On Day Three we had just set up when it started to rain. Now, one place you don't want to be when it rains on the prairie is on the prairie. The soil turns to gumbo pretty quickly when you add water, and gumbo is hell to drive through—don't even think about it. So we packed up as fast as we could and headed back to the 'Bago. The prairie dogs won't come out in the rain, anyway, so we went home and took a nap—just like the dogs.

It didn't bother me that much to lose some shooting time. My head was still afloat following my "in the zone" experience of the previous afternoon. On Day Four, Sunday, we again had to outrun the rain, so after a few hours of light shooting we packed up and headed back to Rapid City. We were pretty much out of ammo anyway, and it was time to go.

Back home in New York City, sometimes I stand at my apartment building at 90th Street and look to the intersection at 87th Street—a *known* distance of 300 yards. I pick out a car headlight or license plate at the curb—barely visible to the naked eye— and I am staggered by the improbability of my hitting it at that range. But on the prairie, devoid of buildings, with only a few trees or other evidence of human habitation, a 300 yard shot becomes routine.

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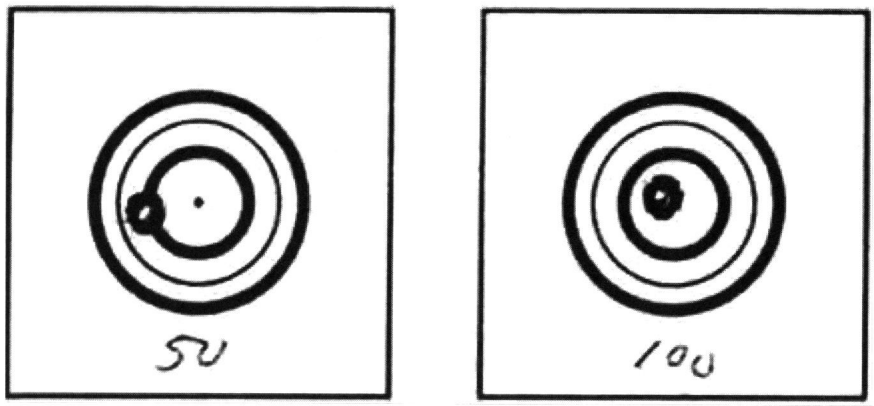

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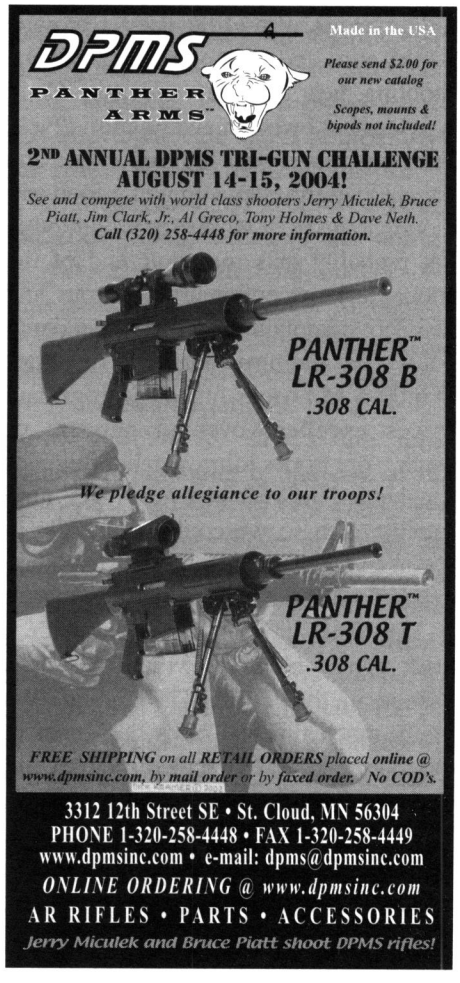

Better Accuracy At Longer Ranges: Fact Or Artifact?

(Just an Opinion...)

BY JACK RUSH

Reports of better accuracy after the hundred yard mark have generated quite a bit of humor among some of us old time serious shooters. It is reported enough to merit some serious consideration. What is really happening? I have several theories, none of them involving tumbling bullets in sleeping tablets.

There is vagueness in some reports. It is sometimes not defined as to whether or not better accuracy is achieved at 200 yards, or whether better RELATIVE accuracy is achieved.

A friend of mine, Frank Lyons, owns a .22 Middlestead, a fine bench/varmint rifle wearing an 8.5 x 25 Leupold scope. Frank maintains that this rifle shoots better at longer ranges than at 100 yards. I shot this rifle at a measured 500 yards. Not wanting to wear out his throat from frivilous shooting, I fired three sighters and then a three shot group. My group measured .948 and was dead center on the two inch red dot. This would translate to a 100 yard group of .189. I eagerly concede that I could probably not, in many tries, ever shoot such a group at 100 yards with that rifle. I also point out that I could probably never duplicate or improve the three shots I fired at 500 yards. Such results just fall in the realm of chance.

Let us consider just plain better accuracy at 200 than at 100. Imagine, if you will, that we have a target set up at 100 yards that does not in any way disturb the bullet flight. Some sort of magic electronic screen that establishes the exact location of the bullet as it passes, without affecting the bullet's flight. Let us say that it records a five shot group at that range of .5 inch. Now there is no power on earth that can cause these five bullets to come closer together at the 200 yard mark. Once a bullet starts to drift off it continues in that direction. If it is perfectly stable it should produce an inch group at 200 yards in a no wind situation.

The results that are reported are obviously not measured against each other in that manner. Rather, shooting is done at the two ranges, and results indicate that the groups are either actually or relatively better at the longer range. There are a number of factors that could cause one to reach such a conclusion. I would guess that the number one reason is insufficient record keeping. I would bet that ANY rifle load will shoot both actually and relatively better at 100 yards than at 200 IF absolutely accurate results are recorded for each group, and IF the number of groups fired are of great enough number to give a statistically valid comparison. I suspect that too many shooters are jumping to conclusions on insufficient scientific evidence.

A second factor may be the choice of targets at the different ranges. The human eye, through a good scope, can easily influence what the shooter THINKS he sees. For instance, my favorite target is a half inch dot at 100 yards. Through a 20X scope I can quarter that dot into four equal parts. However, if I shoot at that same dot with a 9 or 10 power scope my groups are MUCH poorer than they are or would be on an inch or even larger dot. I can not be sure of dead center on the small dots with low power scopes. If I shoot at 200 yards, I need a dot of at least 3/4 inch to do good shooting with the 20 and up scopes, and I need a 2 inch dot, at least, to do my best shooting with lower power scopes at that range. It may be that better groups at longer ranges might be related more to what you are shooting AT than what you are shooting WITH.

At our club in Knoxville, the motto, Attitude is Everything, is prominent. Your mental attitude, and thus your technique, may have a strong influence at the shorter and longer ranges. Are you impatient or have a mental set that you will not do so well at the closer range? There is a very strong probability that this is a factor. It reminds me of the deer hunter, a seasoned shooter from boyhood, who I had here in Montana. He leveled his 44 mag revolver at a running deer at over 200 yards and rolled it on the first shot. One shot was all he ever intended to fire. I yelled, "My god, you killed it!" "I meant to." he calmly answered. That is what I call positive mental attitude!! If you are not enthusiastic about shooting at 100 yards, there is absolutely no doubt that you will not do your best.

Now I will concede that some bullets do leave the muzzle with a slight wobble, more likely in a factory rifle than in a custom bench rifle with a perfect crown. Perfect match bullets are an important factor. This wobble, yaw, call it what you wish, may settle down after the bullet has

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Better Accuracy At Longer Ranges: Fact or Artifact?

Continued

traveled a way. Sometimes, not always. Only if the bullet is perfect. Once that bullet has settled down or "gone to sleep", it does NOT return to its original center of the bore path. It continues to drift off in whatever direction it was traveling as it stabilized. This path is likely to be in random directions on subsequent shots, producing rather larger group sizes the farther they travel. This should be obvious. There is no force known to physics that would draw a bullet back to the original line that it was traveling when it left the bore. It is possible, I suppose, that the bullet may be wobbling around its own center, in which case it would probably produce an egg shaped hole in the first target, and after it stabilized it would produce a caliber size hole at a longer range. Such a scenario is not common, and would affect group size almost negligibly at either range. The effect would be obvious to a seasoned shooter examining a target. i.e. out of round holes. That such a bullet would stabilize and shoot better at 200 yards is very far fetched. If, by some wild chance this was happening, the group size at 200 yards could be slightly better, relatively, than at 100. But, if I saw yaw at the 100 yard mark, I would expect very, very poor accuracy at longer ranges.

It is noted that long range shooters often develop loads at long range, not at 100 yards. This is because they do not wish to waste time and barrel life chasing loads that show promise at short range, but do not hold up at the ranges they intend to shoot. It is NOT because their loads shoot better at long range than at 100 yards.

In short, if you feel your loads shoot better, or relatively better, at longer ranges it is probably statistical error or lack of good records, jumping to conclusions based on small samples, the target size or shape you choose, and mental attitude. Possibly a combination of all the above.

A bullet leaving the muzzle in unstable condition will never shoot well, the farther you shoot the worse it gets, no matter if it stabilizes at some point in its flight. It can not reorient itself back to its original flight path.

I find that in nearly all subjects in which I have taken an interest, seldom is any ONE factor entirely responsible for observed results. My mind is not closed on the subject, and I would be interested in real, solid, evidence of the phenomenon of bullets shooting better or relatively better at longer ranges. I am not much influenced by subjective observation or coincidence. Strange things can occur that defy logic, such as flipping a coin ten times in a row and having it come up heads every time. Yet each toss is an event in itself, and the odds are always fifty/fifty. The same can happen in shooting. Good records and statistical analysis will reveal the reality, eventually.

Experimenting with different targets at different ranges can be revealing. However, mental attitude is a much more difficult variable for each of us to evaluate in ourselves and can influence the entire outcome. I like to shoot at 100 yards, because our range is very well protected from wind and I don't have to deal so much with that variable during load development. It is rare, I find, that a load that performs well at 100 yards does not also perform well at longer ranges, provided that it is of an appropriate bullet style and velocity for long range shooting. I have never found a really good long range load that did not also perform well at 100 yards.

I shoot thousands of rounds per year, as I love to shoot and have virtually unlimited opportunity here in rural Montana. If there is some factor I have not discovered I sure would like to hear about it. Of course there is always the chance of what I call the "wacky factor", the unexplainable.

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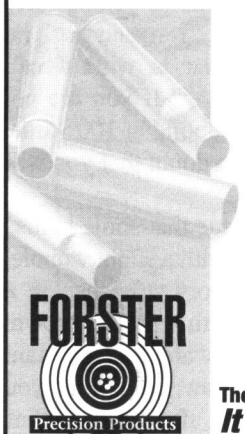

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Springfield's MIA— A Rifleman's Rifle

BY STEVE BAUGHMAN

"No man is entitled to the blessings of freedom unless he be vigilant in its preservation."

Gen Douglas MacArthur

In case you haven't noticed, lighter and smaller rifles are the popular trend these days. Carbines and small diameter calibers dominate. Short barrels that point quickly are in demand. In a world where the above mentioned rifle characteristics are where things are heading, why would anyone want to go in exactly the opposite direction? A few reasons might be for the fun, history, and nostalgia, not in any particular order. Other reasons might be intrinsic accuracy, long range shooting, or the smell of a real wood stock. How about the appreciation one feels when firing a well built, smooth operating, rugged, and accurate firearm that speaks with authority when it is fired. If you think those are some characteristics that you can get into, a Springfield Armory M1A might just be what you are looking for.

A rifleman's rifle, the M1A from Springfield blends quality and modern manufacturing knowledge with an older rifle design that still serves a variety of a shooter's needs. It is well built, solid and tough. It delivers 7.62 bullets downrange with authority, yet is pleasurable to shoot. Some might consider it a dinosaur as compared to the light and handy guns that are the rage nowadays, but after firing one, I have to admit that a new type of "gun bug" has bitten me. For those not familiar with the rifle, it is basically an improved M1 Garand, which was replaced by the M14 as a standard rifle of the United States Army. The M14 was produced from 1957 until 1964 until the M16 was adopted. The improvements the M14 brought over the M1 Garand were several, and included a detachable 20-round magazine, a floating gas piston, a roller on the bolt to reduce friction, full auto capability, a flash suppressor, chrome lined barrel, and a smaller 7.62 NATO or .308 round. Today's semi auto M1A made by Springfield is a truly grand representative of the M14, but is available for the shooting public and discriminating target shooter.

Springfield Armory makes several versions of the venerable M1A, from a basic model up thru their Super Match. The rifle I recently was introduced to was their National Match (NM) model. It is chambered in .308 (7.62 NATO) as delivered via its 22-inch medium weight, air gauged match grade barrel. Total weight is 10.8 pounds, less a loaded 10-round magazine. The front and rear sights are designated as National Match variety, and allow 1/2 MOA adjustments in both elevation and

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Springfield's M1A – A Rifleman's Rifle

Continued

windage. The trigger is factory adjusted to 4.5 pounds. Internal NM upgrades include op-rod and recoil spring guides, gas system and flash suppressor. Each rifle is also factory glass bedded to its American walnut stock. Although it is not the cheapest of their M1A's, I believe that it is a tremendous value with regards to the "extras" that come with it. If you are a semi serious or serious shooter, or even contemplating high power type rifle competition, it's ready to go right out of the box. Springfield Armory makes quite a variety of M1A's for almost every type of shooter that's out there. Yeah, a lot of individuals buy a basic rifle and spend additional money sending off to be "accurized" by talented folks that do that sort of thing. I prefer to have the factory do that for me, because if there is a problem, it can always be returned to them for attention.

First impressions:

My first trip to the range with the rifle started out with intentions to take an afternoon to familiarize myself with the weapon, and to fire a few rounds and get a feel as to how the gun shoots. I normally take this time to gather my thoughts and jot notes down with regards to my first impressions and whatnot. I brought about 120 rounds of 308 ammunition which I felt would be plenty of ammo, but 120 rounds later I was wishing I had brought more. First shots fired were at 50 yards, and a nice 3-shot group emerged. A few clicks on windage and elevation, and the gun was sighted in about 1.5 inches high at 50 yards. The rest of the day was used to fire at 6-inch bull targets at 100 yards. Looking thru the gun's rear sight, the front post was placed with the target's bull sitting on the top of the post. A few rounds were sent down range, and we were on paper and with surprising accuracy. The gun was just plain fun to shoot, and it begged for more. No failures to feed or fire were experienced, and it ate up everything we loaded it with. Recoil was minimal, and several shooters on the line fired the gun and it brought smiles to their faces. Shooting at 6-inch diameter bulls at 100 yards, the day's 3-shot average was 1.4 inches with Black Hills Ammunition, and that was with iron sights. I couldn't ask for more favorable first impressions. The gun just plain felt good to shoot and the smell of walnut added to the nostalgic feelings many of us remember from days gone by before composite and plastic stocks came into being. It had been a while since I had spent an afternoon shooting a rifle with iron sights, and it was good to get back to the basics of shooting. Five different ammo offerings from Black Hills were shot that day, and the accuracy and muzzle velocity results are shown to the side:

After that first day at the range, it was time to regroup thoughts and plan for follow-up visits. Initial impressions mean a lot with regards to testing a rifle, and this one left me with some good ones. I just felt it would be tough to improve on these results, even with a scope mounted to the gun, but felt that a thorough evaluation should include mounting optics and seeing what kind of accuracy this gun is capable of. Springfield Armory also makes scopes, a fact that some people

Table 1

Load	MV	ES	Group Size*
BH 175gr BTHP	2627	28	1.75
BH 150gr Nosler BT	2863	42	1.36
BH 165gr Nosler BT	2723	60	1.34
BH 168gr BTHP	2674	88	1.04
BH 165gr SP	2675	45	1.54
Overall Avg	2712	53	1.41

* Average of three, 3-shot groups at 100 yards with iron sights

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might not be aware of. A great aid for those with not-so-perfect eyesight, a scope allows those individuals to enjoy long range shooting with this rifle over what one could attain without optics. A serious gun deserves a serious scope, so we opted to utilize their 3rd generation 4-14x56 Government Model. This scope is ballistically tuned with bullet drop compensation for the .308 out to 1000 yards. It has a 30mm tube, internal range finding gradients, internal bubble level, and comes with Butler Creek flip-up lens covers. The 3rd generation model also has an adjustable objective, easy to reach windage and elevation knobs, and an illuminated reticle with 11 power settings which turn the reticle green when powered on. This is very handy indeed when shooting in low light conditions. All those features may sound like a lot of extras that many shooters might not need and raise the complexity factor, but we found it all fairly easy to comprehend and utilize. The whole package was rounded out by including Springfield 's scope mount and rings.

Mounting the scope mount to the rifle was an experience, and somewhat different than traditional rifles. Springfield's instructions state that it is quick and easy to install, and provides the most secure and fail-safe method of mounting a scope to the rifle. The mount itself uses two massive front and rear screws to hold it to the side of the receiver. The M1A comes with an ammunition stripper clip guide installed on top of the receiver. This clip guide must be removed and replaced with a block that allows the large mount screw to be attached. A few common tools are required to accomplish this, and the instructions are well written and include photographs of the procedure to be followed. I followed them to the letter, and mounted the scope atop its new mount. It was not difficult to do.

Range Day:

The second range session included shooting the rifle with the scope installed, and we pushed the targets out to the 200-yard berm. It was certainly easier to identify and see the targets with the scope installed, and the bullet holes were easy to see as well. Near MOA accuracy was maintained at this distance, and it was apparent that this rifle was just getting warmed up and I wish we had the opportunity to shoot it at even further distances. I suspect it would really start to shine at the 300+ yardage mark. The Springfield scope was removed and replaced on the receiver 4 times during the day, and the gun returned to very near zero on every occasion. Approximately 200 rounds were fired, and much of it was the 175gr Black Hills Boat Tail Hollow Point offerings. It produced good accuracy, but the 150gr Nosler Ballistic Tips were much more pleasant to shoot due to the reduced recoil. The scope's internal bullet drop compensation marks were utilized, and worked well. Groups with the scope installed are shown below:

Comments:

There is much to like about this rifle. It is very robust and has adequate weight to tame the recoil of the .308 cartridge. This rifle was not finicky

Continued on next page

Putting the M1A through the paces at the range.

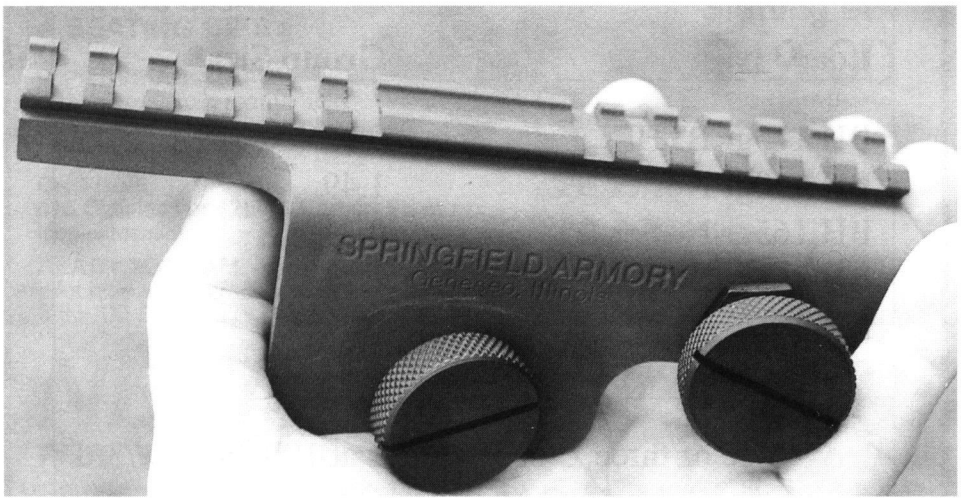
Table 2

Load	Group Size*
BH 175gr BTHP	0.92
BH 150gr Nosler BT	1.49
BH 165gr Nosler BT	0.77
BH 168gr BTHP	1.21
BH 165gr SP	0.83
Overall Avg	1.04

* Average of three, 3-shot groups at 100 yards w/3rd generation 4-14x56 Government Model Scope.

Springfield Armory M1A with Springfield scope.

Springfield Armory scope with illuminated reticle.



3rd generation Springfield Armory scope mount for M1A.

Springfield's M1A – A Rifleman's Rifle

Continued

about what it was fed. Every load we ran thru the gun shot well, and the groups kept indicating. It has what I would call "universal accuracy" — being able to shoot whatever load you require with consistency. It is ready for high power competition right out of the box with no modifications at all. The measured trigger pull was a comfortable, yet relatively safe 4-3/4 pounds. The wood stock brings back memories from my youth when all that was available was real wood. Dislikes really were none, although a rubber recoil pad might be a nice addition if one was to be shooting it all day long. I liked the traditional butt plate though, and it keeps the rifle in-line with the traditional M14 design. The scope is a bit heavy, and perhaps a bit awkward for me to carry around, but it shines when shooting from the bench. I preferred using it for the 200-yard (and further) environment as it certainly makes the target easier to see. Its optics were clear and crisp, and heat mirage problems were minimal. I would also prefer to use the 20 round magazines previously easily available before the Clinton years. The gun is fun to shoot, and not having to be limited to 10 rounds would be even more fun.

The Springfield Armory M1A is a wonderful shooter and easy to fall in love with. At a mere 100 yards, the match grade ammunition from Black Hills only begins to reveal its true potential and the rifle is in the same category. I believe if you'd ask any U.S. Military veteran from the 1960's to the early 1970's what their weapon of choice is, there's probably a good chance you would hear "the M14". Although not a true M14, the Springfield M1A is a darn good representation of the type of hardware that was used by our servicemen during that timeframe. I hear reports that they are also being used in the current activities in Afghanistan, and I can understand why.

On the ranch or farm, a good .308 rifle is a versatile tool that meets a variety of needs. Like a good tractor, or

other farm implement, it's a right handy tool to have around when you need it. When shooting the M1A, it speaks with much authority. Finding a load that meets favorably with a particular gun is sometimes a tough matter, but the Springfield M1A seemed to like just about everything we shot thru it. I always take ammo advice from one of my buddies who is a sniper on the county SWAT team — order a case of each to set away, and dedicate to the gun for hunting, target shooting, or professional needs. I've found that most guns favor one particular brand and/or bullet weight, and once it is determined which loading matches that particular gun, it's best to stick with it. I don't reload, so usually the best course of action for non-reloaders like me is to order in full case lots to ensure that point of impact will not change as will happen if only buying one or two boxes of ammo at a time. Production ammunition runs do vary from lot to lot, so it's best to get a large quantity of one lot and stick with it, assuming it shoots in your gun. No offense to you reloaders, but that's my philosophy. Perhaps tinkering with loads, powders, and bullet weights might result in better groups, but I really don't have the time to do that in my life right now. Black Hills makes ammo for the U. S. military rifle teams at national competitions, so if it's good enough for them, it's obviously good enough for my needs. I strive for what some might call "practical accuracy", which might be

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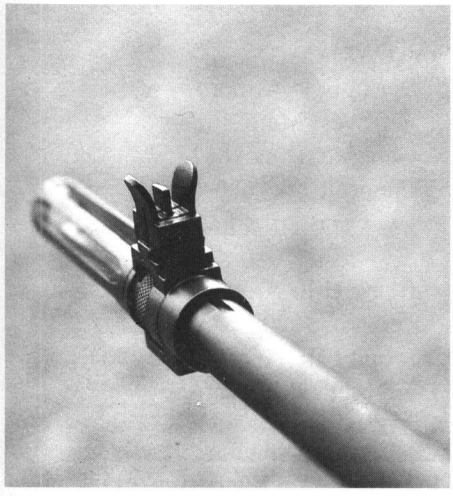
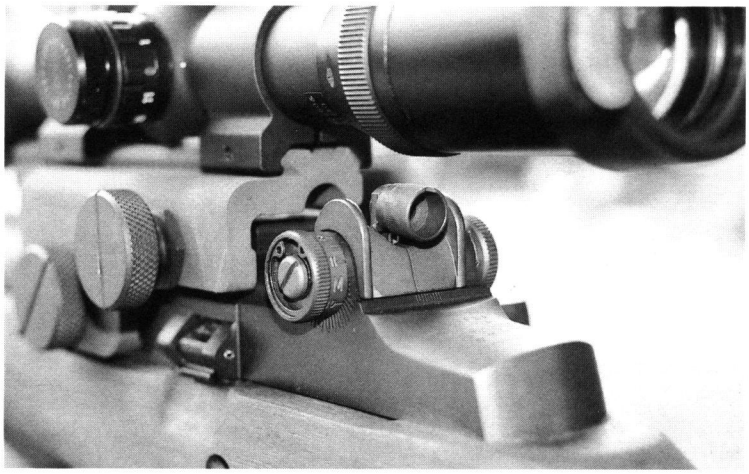


M1A front sight post.



M1A NM rear sight and adjustment knobs.

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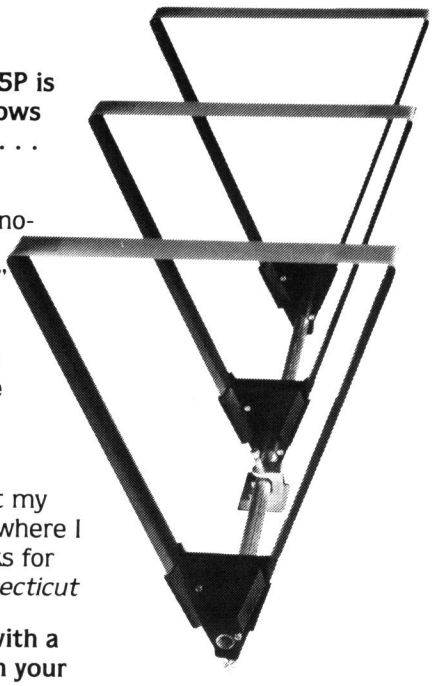

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Light Gun Score Champion - **Rich DeSimone (LG World Record Holder)**
Female Champion - **Crystal McCurry**

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Diane & Bill Shehane

Springfield's M1A – A Rifle-man's Rifle

Continued

defined as being able to hit the target from a variety of positions and in an expedient manner if required. Knowing that the gun is sighted in at the bench gives me confidence in the gun's ability to shoot well, leaving the rest up to the operator.

Being a graduate of Gunsite Academy in Arizona, I have a lot of respect for Col. Jeff Cooper and his thoughts and wisdom on the art of weaponry. A week at Gunsite is good for the soul, and is an excellent choice for those striving to be the best you can be with regards to learning how to shoot more proficiently. In his book, "To Ride, Shoot Straight, and Tell the Truth", he discusses the concept and role of the general-purpose rifle at length. I like one of his quotes: "The rifle is the queen of weapons — 'the brother of Allah' — and it does more things well than any other smallarms." I believe the Springfield Armory M1A fills this bill nicely. I'd like to plan a week there learning more about the "art of the rifle" with the M1A, and will report on that experience at a future date. Some experienced individuals tell me these rifles take 4 or 5 hundred rounds of ammunition run thru them before they truly "break in", and I plan to explore this area as well. Somehow, I feel this is the beginning of a wonderful relationship, one that will improve with time…

Sources:

Springfield Armory
420 West Main Street
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Black Hills Ammunition
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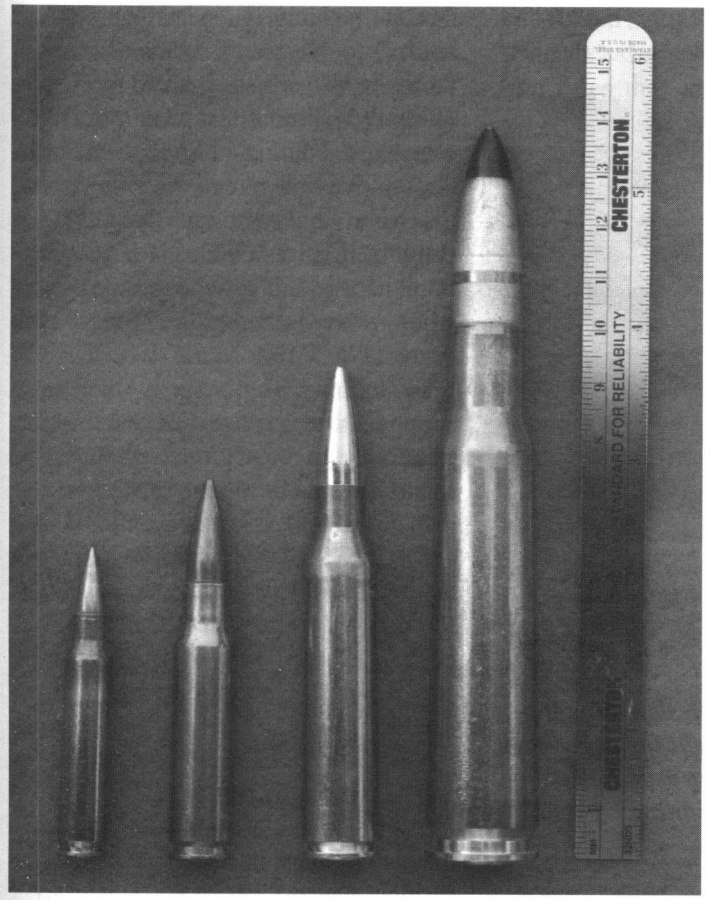
ARMALITE'S AR-30 .338 LAPUA

ARMALITE, Inc.

BY CHARLIE CUTSHAW

The .338 Lapua Magnum cartridge has become well-established in the military shooting and sniping communities. Several military forces have adopted the .338 Lapua as a standard sniping cartridge while others have stated their intent to do so. The US experience in Afghanistan and Iraq has revealed that the present 7.62mm NATO (.308 Win) standard sniper cartridge essentially loses its effectiveness beyond about 800 meters and there is thus interest in another cartridge with better long range ballistics, but not in a rifle as heavy as typical .50 caliber antimaterial rifles. For law enforcement, the .338 bears examination as an alternative to both .300 Winchester Magnum and .50 caliber rifles simply because most departments do not require the terminal ballistics of the .50 BMG cartridge, but might wish to have a rifle available whose ballistics exceed those of the traditional .308 for positive vehicle stops, defeating hard targets such as brick walls and other situations where the .308 or .223 isn't sufficient, but where use of a .50 BMG rifle might be "overkill" and negatively viewed by civilians or the news media. For hunting, the .338 is more than adequate for the largest North American game and most African game. In addition, the .338 is an extremely accurate cartridge, as we shall presently see. In overall appearance, .338 Lapua rifles are only marginally larger than .308 rifles, while .50 caliber rifles have a distinctly larger profile. Moreover, there is a current misguided campaign against rifles in .50 BMG caliber, although to antigun extremists, any firearm is an instrument of the devil.



Cartridges compared. Left to right: .223 Remington, 308 Winchester, .338 Lapua, .50 BMG.

The .338 Lapua Magnum began life in 1983 when Research Armament Company began developing a new long range cartridge specifically intended for military sniper use. The intent was to produce a cartridge capable of firing a 250 grain .338 caliber bullet at velocities approaching 3,000 feet per second. After some experimentation, the company settled on the .416 Rigby case as the basis for its new cartridge. Cases were necked down to .338 and Hornady produced 250 grain bullets for the project. Research Armament eventually produced a gun and ammunition under a Navy contract, but the Navy lost interest and the project died. Later, the Finnish company Lapua completed development of the cartridge and put it into production as the .338 Lapua Magnum, marketing it as a hunting cartridge for large and dangerous game and as a long-range sniping cartridge. The .338's ballistics place it squarely in between the .300 Winchester Magnum and .50 Browning and it was not too long before it attracted the attention of several of the

Continued on next page

Armalite's AR-30 .338 Lapua

Continued

world's armed forces and European law enforcement agencies. The .338 Lapua Magnum has now returned home in the guise of the Armalite AR-30, the only domestically produced rifle in .338 Lapua as of this writing.

The .338 Lapua Magnum is as inherently accurate as the .308 Winchester cartridge while extending the effective range from approximately 800 yards to over 1,500 yards. Like .50 caliber rifles, the .338 Lapua can defeat targets that would be impervious to either .308 or .300 Win Mag bullets and can be used as an antimaterial rifle, although larger rifles have a distinct range and terminal ballistics advantage. On the other hand, most .50 caliber rifles are quite heavy and have a distinct profile. The widely used Barrett M82A1, for example, weighs some 30 pounds, while .338 Lapua rifles are only marginally larger and heavier than 7.62mm NATO rifles. In addition, the .338 Lapua does not have the blast signature of the .50 caliber weapons. For the reasons we have discussed above, the .338 is seeing increased use as a sniping round and many manufacturers are responding to this by producing rifles chambered for this very effective and inherently accurate cartridge. As mentioned, the only production .338 manufactured in the United States is the subject of this evaluation — the Armalite AR-30.

Armalite's AR-30 is available in three calibers—.308 Winchester, .300 Winchester Magnum and .338 Lapua Magnum. In appearance, the AR-30 resembles a scaled down version of Armalite's big AR50 .50 BMG caliber rifle, but the proportions of the AR-30 are better than its big brother in our humble opinion. The AR-30 is a bolt action rifle fed from a detachable box magazine, and is arguably "state of the art" in terms of such rifles. The Armalite AR-30 is manufactured almost entirely of aluminum alloy and steel, which comprises the magazine, barrel, receiver, bolt, muzzle brake and a few other components. It isn't a rifle that will attract the eye of the traditionalist rifle shooter, who demands finely checkered densely grained wood and deeply blued and polished metal components, but the AR-30 will shoot rings around almost any "traditional" rifle and costs far less. The AR-30's stock assembly and grip frame that make up the buttstock are hard anodized aircraft aluminum. The AR-30's only non-metallic components are the pistol grip, which is taken directly from the company's AR-15 type rifles, the cheekrest and buttstock pad.

The AR-30 is bedded via a unique "V" channel and bedding block in the stock assembly that interfaces with a mating surface on the bottom of the barrel and receiver assembly. The bedding block is a small wedge-shaped steel component that moves vertically. The block has a slight angled surface at the front that interfaces with a similar surface in the stock assembly. When tightened, the bedding block locates the recoil lug in the stock while the receiver and stock firmly and accurately mate via the "V" shaped channel and receiver. There is no torque requirement for joining the bedding block and barrel and receiver assembly; all that is required is to firmly seat the retaining bolt. This system ensures that there is no "play" between the receiver and stock and that the bedding is repeatable, that is, it returns to the same relationship even when the rifle is disassembled for maintenance. We verified this when our AR-30 was updated during a visit to the Armalite factory. We had zeroed the rifle prior to our visit and although the rifle was completely disassembled for modification, the zero did not change appreciably when we went to the range with Armalite's CEO Mark Westrom the following day. The barrel is free floated along its entire length and were it not required for ergonomic reasons, the forearm would be entirely unnecessary.

The AR-30 is a conventional bolt action rifle in the sense that it has a reciprocating manually operated bolt with two forward locking lugs and a safety lug that is integrated into the operating handle, but the design is otherwise unconventional. The AR-30 has a "floating" bolt head that flexes slightly to ensure proper lockup and headspace. The extractor is integral to the right locking lug and the ejector is of the plunger type, positively ejecting spent casings. Our AR-30 placed every spent casing in a small pile about six inches from the right front of the ejection port.

Close-up of AR-30 receiver. Note that bolt is almost completeyl enclosed by receiver.

AR-30 with equipment for use with Horus Vision Sighting System.

Unlike most bolt action rifles, the AR-30 receiver body surrounds the bolt, adding strength and rigidity and also protecting the rifle's action from dust and foreign matter. The receiver's top surface is fitted with a MIL-STD-1913 rail for mounting optics. There are no open sights. The safety is a small lever at the right rear of the receiver that is applied when moved to the rear and released when pressed forward. It blocks the trigger from any movement, although the bolt can still be manipulated with the safety applied. The "single stack" detachable box magazine holds five cartridges. The magazine was specifically designed in this manner to save space and make the receiver as narrow as possible. The magazine is retained at the rear by a latch that engages a notched plate spot welded to the rear face of the magazine. The attachment is positive, although there is some intentional play at the forward end of the magazine. Feeding was absolutely reliable, although the steep feed ramp initially required a fairly strong effort to chamber each cartridge. Our AR-30 is an early example and subsequent rifles have modified feed ramp and a stock that holds the magazine more securely. On our previously mentioned visit to Armalite, we took our AR-30 and had it brought up to current specifications, a process that took all of 20 minutes. After modification, the action and feeding of our early rifle was dramatically improved with traditional "butter smooth" operation, an indication of just how good current production AR-30s are. While at Armalite, we also purchased a spare magazine and had the trigger pull reduced to 3 1/2 pounds. The trigger is fully adjustable, but Armalite recommends that it be done either at the factory or by a trained gunsmith.

The AR-30's bolt operation was somewhat "gritty" upon receipt, but after wiping it clean and applying a light coat of Mil-Comm TW-25B PTFE spray to the bolt and receiver interior, the action smoothed considerably. The owner's manual states that the action might seem rough at first due to the phosphate finish and that it would become smoother after some usage and lubrication, but TW-25B instantly smoothed the bolt's operation. The TW-25B sprays in any position and is pure PTFE, a compound similar to Teflon, in an alcohol base. When sprayed onto a metal surface, the alcohol quickly evaporates, leaving a dry film of PTFE that actually penetrates into the metal, making for incredibly smooth operation and easing cleanup. Further, unlike liquid lubricants, the dry PTFE film does not attract dust and dirt. It also forms a protective coating that helps prevent corrosion. For high-shear applications such as locking lugs, a tiny amount of TW-25B PTFE grease enhances operation and reliability.

We set the AR-30 up with a Horus Vision telescopic sight, as we do all precision rifles that we evaluate. The Horus Vision sighting system uses a targeting grid in conjunction with a Palm handheld computer to take all guesswork out of "come-ups" and is such an improvement over traditional MIL-DOT scopes that it defies description. The Horus grid is in standard milliradians, but does away with the USMC "footballs" and Army "baseballs" in favor of mils precisely divided into wide hackmarks for each milliradian, which is subtended into 2/10 mil increments by smaller hackmarks. These make ranging via mils much more precise. The Horus Vision system does away with turning knobs to dial in come-ups. All that is necessary is to obtain the distance to the target, dope the wind and use either a Palm computer or come-up card to determine the hold. As long as the shooter is using the same load in his rifle, the windage and elevation knobs are never touched. We also fitted the AR-30 with a Harris Ultralight Series S bipod. This version of the well-known Harris bipod has built in lateral movement to allow the shooter to compensate for uneven terrain.

Shooting the big Armalite can only be described as a real pleasure. The aggressive muzzle brake reduces felt recoil to approximately .308 level, although as with any rifle having such a device, it is not advisable to be alongside when the big .338 cartridge is touched off and the muzzle brake does its job by diverting gases to the side and rear. The blast is not particularly noticeable to the shooter, who is directly behind it, but when on the range, the AR-30 shooter should be careful to choose a firing point with vacancies on either side. The AR-30's

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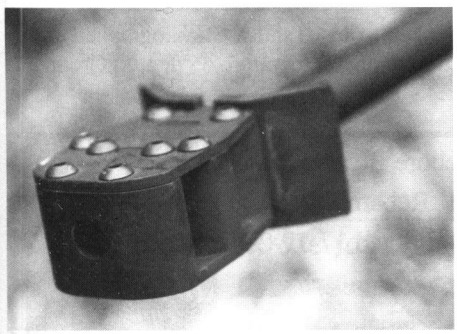

AR-30 muzzle brake. Aggressive design reduces felt recoil to approximately that of a .308.

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Armalite's AR-30 .338 Lapua

Continued

single stage trigger was excellent. There was absolutely no creep or backlash and the trigger broke like the proverbial "glass rod" at the factory specified 4 1/2 lbs, although we opted to have the pull weight reduced. The AR-30 was also superbly accurate "right from the box." The rifle delivered sub-minute of angle accuracy from the very first shots fired. We tested with Black Hills 250 and 300 grain and Lapua 250 grain ammunition. Although the Armalite was very accurate with all ammunition, it delivered its best performance with Black Hills 300 grain, achieving a average shot group only 0.625 inches in diameter. Every three shot group was a "cloverleaf" with each bullet hole touching. Considering the diameter of the .338 bullets, that is a remarkable level of accuracy with no barrel break-in whatsoever. As the rifle becomes broken in and the round count increases, it can only get better. We believe that the AR-30 will ultimately become a solid half minute rifle. As we did with our Brown M702 .308, we will shoot the AR-30 and give a long term report on it in a year or so. Detailed accuracy results are to be found at Table 1.

The Armalite AR-30 isn't attractive in the traditional sense. There is no beautiful wood, fine checkering, inlays or polished bluing. As mentioned, the traditional rifle shooter is not going to be impressed by the AR-30's appearance. The beauty of the AR-30 lies in its Spartan efficiency. The rifle is a state of the art shooting tool that does exactly what it was designed to do in the most efficacious manner. There are other .338 Lapua Magnum rifles available, but all are far more expensive than the AR-30 and none are any more accurate or reliable. The AR-30 is an outstanding and reasonably priced rifle that delivers the goods.

SOURCES:

ARMALITE
PO Box 299
Geneseo, IL 61254
Tel: 309-944-6939
Fax: 309-944-6949
www.armalite.com

Mil-Comm (TW-25B)
PO Box 3114
Wallington, NJ 07057-3114
Tel: 201-935-8561
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www.milcomm.com

Black Hills Ammunition
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Table 1: Specifications
Armalite AR-30 Precision Rifle

Caliber:	.338 Lapua Magnum
Locking:	Rotating bolt, dual lugs
Operation:	Manual, bolt action
Trigger:	Single stage match, 4.5 lbs
Barrel:	29 inches. Chrome molybdenum steel, magnesium phosphate finished.
Stock: and	Aluminum skeleton stock, hard anodized, polymer cheekrest rubber butt pad.
Weight:	16 lbs including bipod and scope.

Table 2: Accuracy Results

Ammo	High Velocity	Low velocity	Average velocity	Extreme spread	Std deviation	Avg. group
Black Hills 250 gr	2819 fps	2760 fps	2782 fps	59 fps	19	0.875
Black Hills 300 gr	2847 fps	2794 fps	2822 fps	53 fps	15	0.625
Lapua 250 gr	2876 fps	2759 fps	2829 fps	117 fps	31	0.875

Testing conducted at 100 yards. Velocity data taken from 10 shots, Chronographed on Competitive Edge Dynamics Millennium Chronograph, temperature 65 deg, F. Group size average of two three shot groups.

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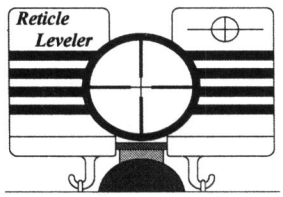

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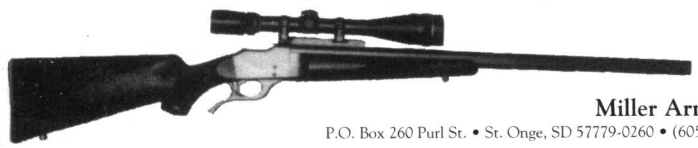

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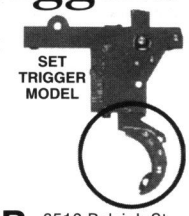

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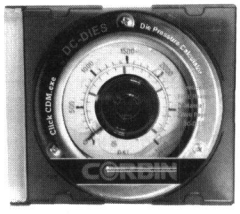

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IBS News

2004 GROUP MATCH SCHEDULE

2004	Group	Schedule			
Date	Shoot Name	Location	Distance	Class	Start Rotation
01/11/2004	Dunham's Bay Winter	Dunham's Bay	100 YD	HV	11:00AM
01/18/2004	Dunham's Bay Winter	Dunham's Bay	100 YD	HV	11:00AM
01/25/2004	Dunham's Bay Winter	Dunham's Bay	100 YD	HV	11:00AM
02/08/2004	4 Gun Championship	San Gabriel Valley Benchrest	100 YD	HB/SP	8:30AM
03/07/2004	Dunham's Bay Winter	Dunham's Bay	100 YD	HV	11:00AM
03/14/2004	Dunham's Bay Winter	Dunham's Bay	100 YD	HV	11:00AM
03/14/2004	4 Gun Championship	San Gabriel Valley Benchrest	100 YD	LV/HV	8:30AM
03/28/2004		Braxton Co. Gun Owners Assoc	100 YD	HV/LV	10:00AM
04/02/2004	South African	Schoeman Range	100/200m	HV	8:00
04/03/2004	National Championship	Schoeman Range	100/200m	LV	8:00
04/18/2004		Fairfax, VA		HV	
04/24/2003	East-West SHOW ME	St. Louis BR Club	100 YD	LV,HV	
04/25/2003	Shootout	St. Louis BR Club	200 YD	LV,HV	
05/01/2004	Hog Roast	Fairchance Gun Club	100 YD	HV/LV	
05/02/2004	Hog Roast	Fairchance Gun Club	200 YD	HV/LV	
05/08/2004	Keystone Challenge	Palmisano's Memorial	100 YD	LV/HV	8:00:00 YD
05/09/2004	Keystone Challenge	Palmisano's Memorial	200 YD	HV/LV	8:00:00 YD
05/16/2004		Braxton Co. Gun Owners Assoc	200 YD	HV/LV	10:00AM
05/26/2004	Super Shoot	Kelbly's			
05/27/2004	Super Shoot	Kelbly's			
05/28/2004	Super Shoot	Kelbly's			
05/29/2004	Super Shoot	Kelbly's			
06/04/2004	Benchrest School	Canastota Conservation Club			5:00PM
06/05/2004	Benchrest School	Canastota Conservation Club			8:00
06/06/2004	Benchrest School	Canastota Conservation Club			8:00
06/12/2004	Memorial Shoot	Union Co.	100 YD	HV/LV	
06/13/2004	Memorial Shoot	Union Co.	200 YD	HV/LV	
Date	Shoot Name	Location	Distance	Class	Start Rotation
06/19/2004	Charity Classic	South Creek Northern Tier	100 YD	HV/LV	8:00 FR
06/20/2004	Charity Classic	South Creek Northern Tier	200 YD	HV/LV	8:00 FR
06/26/2004	Iowa State Champ	Boone Valley	100/200	LV	
06/27/2004	Iowa State Champ	Boone Valley	100/200	HV	
07/02/2004	NYS Triple Crown leg#1 and	Painted Post Field & Stream	100/200M	SP	8:00:00 FR
07/03/2004	2004 Seeley Masker	Painted Post Field & Stream	100 M	HV/LV	8:00:00 FR
07/04/2004	$10,000 BR Challenge	Painted Post Field & Stream	200 M	HV/LV	8:00:00 FR
07/24/2004	Myles Hollister Memorial	Palmisano's Memorial	100 YD	SP/HV	8:00:00 YD
07/25/2004	Myles Hollister Memorial	Palmisano's Memorial	200 YD	HV/SP	8:00:00 YD
07/30/2004	NYS Triple Crown leg#2 and	Canastota Conservation Club	100 YD	HV/LV	9:00 FR
07/31/2004	200/300 YD IBS CHAMP	Canastota Conservation Club	200 YD	HV/LV	8:00 FR
08/01/2004	200/300 YD IBS CHAMP	Canastota Conservation Club	300 YD	HV/LV	8:00 FR
08/08/2004		Fairfax, VA	100 YD	HV	
08/07/2004	Night Shoot	Palmisano's Memorial	100 YD	hv/hb/sp	7:30PM NR
08/16/2004	IBS GROUP NAT'L	Kelbly's	100 YD	HB	FR
08/17/2004	IBS GROUP NAT'L	Kelbly's	200 YD	HB	FR
08/18/2004	IBS GROUP NAT'L	Kelbly's	100 YD	LV/SP	FR
08/19/2004	IBS GROUP NAT'L	Kelbly's	100 YD	HV	FR
08/20/2004	IBS GROUP NAT'L	Kelbly's	200 YD	SP/LV	FR
08/21/2004	IBS GROUP NAT'L	Kelbly's	200 YD	HV	FR
08/28/2004	WV State Champion	Braxton Co. Gun Owners Assoc	100 YD	HV/LV	10:00AM
08/29/2004	WV State Champion	Braxton Co. Gun Owners Assoc	200 YD	HV/LV	10:00AM
08/28/2004		Boone Valley	100/200	LV	
08/29/2004		Boone Valley	100/200	HV	
08/29/2004		Fairfax, VA		HV	
09/12/2004	CA IBS HV Champ	San Gabriel Valley Benchrest	100 YD	HV/HV	
09/18/2004	NYS Triple Crown leg#3 and	Camillus Sportsmen's Club	100 YD	HV/LV	8:00:00 AG
09/19/2004	Pro-AM NY State Champ	Camillus Sportsmen's Club	200 YD	HV/LV	8:00:00 AG
10/10/2004	CA HBR CHAMP	San Gabriel Valley Benchrest	100	HBR	8:30AM
10/24/2004		Fairfax, VA	100 YD	HV	
11/14/2004	Merchandise Shoot	San Gabriel Valley Benchrest	100 YD	HV/HV	8:30AM
12/04/2004		Arizona BR Shooters	100 YD	HB-5	
12/05/2004		Arizona BR Shooters	200 YD	HB-5	

2004 SCORE MATCH SCHEDULE

2004	IBS SCORE	SCHEDULE			
DATE		CLUB	YARDS	CLASSES	TIME Rotation
01/17/04		Titusville Mims Fl	100/200	VFS	9:00
1/18/04		Fairfax, VA	200	H,VH,VFS	10:00
1/18/04		WWCCA	100	VFS,H,VH,FAC	10:00
1/31/04		Charlotte, NC	100/200	VFS	10:00
2/14/04		Piedmont Gun club	200	VFS	9:00
2/15/04		Fairfax, VA	200	H,VH,VFS	10:00
2/15/04		WWCCA	100	VFS,H,VH,FAC	10:00
2/21/04		Titusville Mims Fl	100/200	VFS	9:00
2/29/04		Charlotte, NC	100/200	VFS	10:00
3/13/04		Albany Rifle & Pistol club	100	VFS	9:00
3/13/04		Piedmont Gun club	100	VFS	9:00
3/20/04		Roseburg Rod & Gun	100/200	VFS	8:30
3/21/04		Fairfax, VA	200	H,VH,VFS	10:00
3/21/04		Charlotte, NC	100/200	VFS	10:00
3/21/04		WWCCA	200	VFS,H,VH,FAC	10:00
3/27/04		MGGOA, GA	100/200	H,VH,VFS	9:00
3/28/04		York, PA	100	H,VH,VFS	10:00
4/2/04	South African	Schoeman Range	100m	H,VH,VFS	8:00
4/3/04	National Champ	Schoeman Range	200m	H,VH,VFS	8:00
4/4/04		Bridgeville, DE	100	H,VH,VFS	11:00
4/4/04		Piedmont Gun club	100	VFS	9:00
4/10/04		Thurmont, MD	100	H,VH,VFS	11:00
4/10/04		Albany Rifle & Pistol club	100	VFS	9:00am
4/10/04		Pinetucky, GA	100	H,VH,VFS	9:00
4/10/04		WWCCA	100/200	VFS,H,VH,FAC	9:00
4/11/04		Easter			
4/11/04		Roseburg Rod & Gun	100/200	VFS	8:30
4/11/04		Manatee	200/100	VFS	9:00
4/17/04		Titusville Mims Fl	100/200	VFS	9:00
4/18/04		Bowmanstown, PA	100	H,VH,VFS	10:00
4/18/04		Braxton County, WV	100	H,VH,VFS,F	10:00
4/24/04		MGGOA, GA	100/200	H,VH,VFS	9:00
4/25/04		Daramascotta, ME	100		9:00
4/25/04		Sulphyr Springs, PA	100	H,VH,VFS,F	10:00
5/2/04		Bridgeville, DE	200	H,VH,VFS	11:00
5/2/04		Orrington,ME	100	H,VH,VFS	9:00
5/2/04		Manatee	200/100	VFS	9:00
5/8/04		Pinetucky, GA	100	H,VH,VFS	9:00
5/8/04		Piedmont Gun club	200	VFS	9:00
5/8/04		Albany Rifle & Pistol club	100	VFS	9:00
5/9/04		Thurmont, MD	100	H,VH,VFS	11:00
5/15/04		Rockingham, NC	100	H,VH,VFS	10:00
5/15/04		Roseburg Rod & Gun	100/200	VFS	8:30
5/15/04		Titusville Mims Fl	100/200	VFS	9:00
5/16/04	IRONMAN Leg 1	Sulphyr Springs, PA	100	H,VH,VFS,F	10:00
5/16/04		Holmen R&G	100/200	H	9:00
5/16/03		Augusta,ME	100	H,VH,VFS	9:00
5/22/04		MGGOA, GA	100/200	H,VH,VFS	9:00
5/22/04		Black Creek, VA	100	H,VH,VFS	10:00
5/23/04		York, PA	200	H,VH,VFS	10:00
5/23/04		Daramascotta, ME	100	H,VH,VFS	9:00
5/29/04		Boone Valley, IA	100/200	H,VH,VFS	9:00
5/29/04	Maine YD Champ. Firecracker leg 1	Orrington,ME	100	H,VH,VFS	9:00
5/30/04	Maine YD Champ. Firecracker leg 2	Orrington,ME	200	H,VH,VFS	9:00
5/30/04		Mainville, PA	100	H,VH,VFS,F	10:00
6/5/04		Black Creek, VA	100	H,VH,VFS	10:00
6/5/04		Boone Valley, IA	100/200	VFS	9:00
6/6/04		Bridgeville, DE	100	H,VH,VFS	11:00
6/6/04	Maine YD Champ. Firecracker leg3	Daramascotta, ME	300	H,VH,VFS	9:00
6/6/04		Pinetucky, GA	100	H,VH,VFS	9:00
6/6/04		Holmen R&G	100/200	H	9:00
6/12/04	Bud Pryor	Thurmont, MD	100	H,VH,VFS	8:00
	Bud Pryor	Thurmont, MD	200	H,VH,VFS	13:00
6/13/04	Bud Pryor	Thurmont, MD	300	H,VH,VFS	9:00
		Piedmont Gun club	100	VFS	9:00
		Albany Rifle & Pistol club	100	VFS	9:00
6/13/04		Braxton County, WV	200	H,VH,VFS,F	10:00
6/13/04		Manatee	200/100	VFS	9:00

2004	IBS SCORE	SCHEDULE			
6/19/04		Titusville Mims Fl	100/200	VFS	9:00
6/20/04		Sulphyr Springs, PA	100	H,VH,VFS,F	10:00
6/20/04		Daramascotta, ME	100	H,VH,VFS	9:00
6/26/04	–PA States	Mainville, PA	100	H,VH,VFS	10:00AM
6/27/04	–PA States IRONMAN leg 2	Mainville, PA	200	H,VH,VFS	9:00
6/26/04		MGGOA, GA	100/200	H,VH,VFS	9:00
7/4/04		Bowmanstown, PA	100	H,VH,VFS,F	10:00
7/4/04		Daramascotta, ME	200	H,VH,VFS	9:00
7/10/04		Pinetucky, GA	100	H,VH,VFS	9:00
7/10/04	Maine States	Augusta,ME	100	H,VH,VFS	9:00

2004 SCORE MATCH SCHEDULE

7/10/04		Piedmont Gun club	200	VFS	9:00
7/10/04		Albany Rifle & Pistol club	100	VFS	9:00
7/10/04		Mt. Airy, MD	300	H,VH,VFS	10:00
7/11/04	Maine States	Augusta,ME	200	H,VH,VFS	9:00
7-11-04		Manatee	200/100	VFS	9:00
7/11/04		Sulphyr Springs, PA	100	H,VH,VFS,F	10:00
7/17/04	–200/300 Champ.	Union County, PA	200	H,VH,VFS	FR
7/18/04	–200/300 Champ. IRONMAN	Union County, PA	300	H,VH,VFS	FR
7/17/04		St. Louis BR CLUB		H	9:00
7/17/04		Titusville Mims Fl	100/200	VFS	9:00
7/17/04	MI States	WWCCA	100/200	VFS,H,VH,FAC	9:00
7/24/04		Black Creek, VA	100	H,VH,VFS	10:00
7/24/04		Holmen R&G	100/200	H	9:00
7/25/04	VFS STATES	Holmen R&G	100/200	VFS	9:00
7/25/04	–York Champ.	York, PA	100	H,VH,VFS	10:00
7/31/04	–DE States	Bridgeville, DE	100	H,VH,VFS	11:00
8/1/04	–DE States	Bridgeville, DE	200	H,VH,VFS	10:00
7/31/04	IA States	Boone Valley, IA –	100/200	H,VH,VFS	9:00
8/1/04	IA States	Boone Valley, IA	100/200	VFS	9:00
8/8/04		Manatee	200/100	VFS	9:00
8/8/04		Orrington,ME	100	H,VH,VFS	9:00
8/14/04	–MD States 200/300	Thurmont, MD	200	H,VH,VFS	10:00
8/15/04	–MD States 200/300	Thurmont, MD	300	H,VH,VFS	9:00
8/14/04		Pinetucky, GA	100	H,VH,VFS	9:00
8/14/04		Piedmont Gun club	200	VFS	9:00
8/15/04		WWCCA	100	VFS,H,VH,FAC	10:00
8/21/04		Titusville Mims Fl	100/200	VFS	9:00
8/22/04		York, PA	200	H,VH,VFS	10:00
8/29/04		Mainville, PA	100	H,VH,VFS,F	10:00
9/4/04		Orrington,ME	100	H,VH,VFS	9:00
9/4/04		Black Creek, VA	100	H,VH,VFS	10:00
9/4/04		Orrington,ME	100	H,VH,VFS	9:00
9/5/04		Sulphyr Springs, PA	100	H,VH,VFS,F	10:00
9/11/04	– IBS Score National's	Painted Post, NY	100 M	H,VH,VFS	9:30 FR
9/12/04	– IBS Score National's	Painted Post, NY	200 M	H,VH,VFS	9:30 FR
9/12/04		Manatee	200/100	VFS	9:00
9/18/04		Rockingham, NC	100	H,VH, VFS	10:00
9/18/04		Boone Valley, IA	100/200	H,VH,VFS	9:00
9/18/04		Titusville Mims Fl	100/200	VFS	9:00
9/18/04		Piedmont Gun club	100	VFS	9:00
9/19/04		York, PA	100	H,VH,VFS	10:00
9/19/04		Boone Valley, IA	100/200	VFS	9:00
9/19/04		Augusta,ME	100	H,VH,VFS	9:00
9/25/04	–MD States	Thurmont, MD	100	H,VH,VFS	10:00
9/26/04	–MD States	Thurmont, MD	200	H,VH,VFS	9:00
10/2/04	–WV States	Braxton County, WV	100	H,VH,VFS	10:00
10/2/04		Black Creek, VA	100	H,VH,VFS	10:00
10/2/04	Me Long Distance	Daramascotta, ME	200	H,VH,VFS	9:00
10/3/04	Me Long Distance	Daramascotta, ME	300	H,VH,VFS	9:00
10/2/04	NC STATES	Piedmont Gun club	100	H,VH,VFS	9:00
10/3/04	NC STATES	Piedmont Gun club	200	H,VH,VFS	9:00
10/3/04	–WV States	Braxton County, WV	200	H,VH,VFS	10:00
10/9/04	–VA States	Fairfax, VA	100	H,VH,VFS	10:00
10/10/04	–VA States	Fairfax, VA	200	H,VH,VFS	9:00
10/10/04		Manatee	200/100	VFS	9:00
10/10/04		Sulphyr Springs, PA	100	H,VH,VFS,F	10:00
10/16/04		Titusville Mims Fl	100/200	VFS	9:00
10/17/04		Bowmanstown, PA	100	H,VH,VFS,F	10:00
10/23/04	–GA States	MGGOA, GA	100	H,VH,VFS	10:00
10/24/04	–GA States	MGGOA, GA	200	H,VH,VFS	10:00
10/31/04		WWCCA	200	VFS,H,VH,FAC	10:00
11/14/04		Manatee	200/100	VFS	9:00
11/14/04		Thurmont, MD	100	H,VH,VFS	10:00
11/20/04		Titusville Mims Fl	100/200	VFS	9:00
11/21/04		Fairfax, VA	100	H,VH,VFS	10:00
12/5/04		WWCCA	100	VFS,H,VH,FAC	10:00
12/19/04		Fairfax, VA	100	H,VH,VFS	10:00

Long Range Match Schedule for 2004

Date	Match Desciption * see note	Location	Yardage	START TIME (Registration closes)	Classes **
600yd Schedule					
01/11/2004	600yd Group & Score match	Bridgeville Rifle & Pistol Club	600	n/a	declared @ entry
02/08/2004	600yd Group & Score match	Bridgeville Rifle & Pistol Club	600	n/a	declared @ entry
02/21/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
02/22/2004	600yd Group & Score match	St Louis Benchrest Club	600	n/a	declared @ entry
03/27/2004	600yd Group & Score match	Bridgeville Rifle & Pistol Club	600	n/a	declared @ entry
03/27/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
03/28/2004	600yd Group & Score match	Bridgeville Rifle & Pistol Club	600	n/a	declared @ entry
04/10/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
05/29/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
06/26/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
07/31/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
08/28/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
09/11/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
10/30/2004	600yd Group & Score match	Piedmont Gun Club	600	9:00am	Light & Heavy
11/21/2004	600yd Group & Score match	St Louis Benchrest Club	600	n/a	declared @ entry

03/20/2004	Match #1	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
04/03/2004	Match #1	VA 1000yd BR Club	1000	9:00am (8:30am)	LG/HG
04/04/2004	Match #2	VA 1000yd BR Club	1000	9:00am (8:30am)	HG/LG
04/17/2004	Match(s) #1 & #2	Iowa 1000 YD BR Assoc	1000	9:00am (8:45)	LG/HG
04/17/2004	Match #2	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
04/24/2004	Match #1	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
04/25/2004	Match #2	Ohio 1000yd Club	1000	9:30am (9:00)	HG/LG
05/01/2004	Match #3	VA 1000yd BR Club	1000	9:00am (8:30am)	LG/HG
05/02/2004	Match #4	VA 1000yd BR Club	1000	9:00am (8:30am)	HG/LG
05/15/2004	Match #3	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
05/22/2004	Match(s) #3 & #4	Iowa 1000 YD BR Assoc	1000	9:00am (8:45)	LG/HG
05/22/2004	Match #3	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
05/23/2004	Match #4	Ohio 1000yd Club	1000	9:30am (9:00)	HG/LG
06/05/2004	Match #5 (VA State Championship)	VA 1000yd BR Club	1000	9:00am (8:30am)	LG/HG
06/06/2004	Match #6 (VA State Championship)	VA 1000yd BR Club	1000	9:00am (8:30am)	HG/LG
06/12/2004	Match #5	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
06/13/2004	Match #6	Ohio 1000yd Club	1000	9:30am (9:00)	HG/LG
06/19/2004	Match #4	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
06/26/2004	Iowa State Championship M5,6	Iowa 1000 YD BR Assoc	1000	9:00am (8:45)	LG/HG
07/17/2004	Match 7,8	Iowa 1000 YD BR Assoc	1000	9:00am (8:45)	LG/HG
07/17/2004	Match #5 (NC State Championship)	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
07/18/2004	Match #6 (NC State Championship)	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
07/24/2004	Match #7 (Ohio State Championship)	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
07/25/2004	Match #8 (Ohio State Championship)	Ohio 1000yd Club	1000	9:30am (9:00)	HG/LG
08/07/2004	Match #7	VA 1000yd BR Club	1000	9:00am (8:30am)	LG/HG
08/08/2004	Match #8	VA 1000yd BR Club	1000	9:00am (8:30am)	HG/LG
08/14/2004	Match #9	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
08/15/2004	Match #10	Ohio 1000yd Club	1000	9:30am (9:00)	HG/LG
08/21/2004	Match #7	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
08/21/2004	Match #8 (Night Match)	NC 1000yd BR Assoc	1000	5:30Pm (5:15)	HG/LG
09/04/2004	2003 IBS National Championships	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
09/05/2004	2003 IBS National Championships	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
09/06/2004	2003 IBS National Championships	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG
09/11/2004	Match(s) #9 & #10	Iowa 1000 YD BR Assoc	1000	9:00am (8:45)	LG/HG
09/18/2004	Match #9 (Night Match)	NC 1000yd BR Assoc	1000	5:30Pm (5:15)	HG/LG
10/02/2004	Match #9	VA 1000yd BR Club	1000	9:00am (8:30am)	LG/HG
10/03/2004	Match #10	VA 1000yd BR Club	1000	9:00am (8:30am)	HG/LG
10/09/2004	Match(s) #11 & #12	Iowa 1000 YD BR Assoc	1000	9:00am (8:45)	LG/HG
10/16/2004	Match #10	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
10/30/2004	Make-up (if needed)	NC 1000yd BR Assoc	1000	9:30am (9:00)	HG/LG
11/06/2004	Make-up (if needed)	VA 1000yd BR Club	1000	9:00am (8:30am)	LG/HG
11/07/2004	Make-up (if needed)	VA 1000yd BR Club	1000	9:00am (8:30am)	LG/HG
10/09/2004	Make-up (if needed)	Ohio 1000yd Club	1000	9:30am (9:00)	LG/HG

** NOTE: LG = Light Gun class, and HG = Heavy Gun class.

*** NOTE: The IA & Ohio club has scheduled 12 matches for the year. You will only earn points in the first 10 matches you attend. If you attend all 12 matches your shooter-of-the-year points and aggregates are calculated from the first 10 matches only.

2004 RIMFIRE MATCH SCHEDULE

2004	IBS	RIMFIRE SCHEDULE			
Date	Event Name	Club	Yardage	Gun	Time
2/15/04		PIEDMONT GUN CLUB	50 YD	LT & HV	2:00PM
3/21/04		PIEDMONT GUN CLUB	50 YD	LT & HV	2:00PM
4/2/04	South African	Schoeman Range	50m		8:00
4/3/04	National Champ	Schoeman Range	50m		8:00
4/17/04		PIEDMONT GUN CLUB	50 YD	LT & HV	9:00AM
5/15/04		PIEDMONT GUN CLUB	50 YD	LT & HV	9:00AM
6/6/04		PIEDMONT GUN CLUB	50 YD	LT & HV	2:00PM
6/18/04		PIEDMONT GUN CLUB	50 YD	LT & HV	2:00PM
8/21/04	STATE CHAMP	PIEDMONT GUN CLUB	50 YD	LT & HV	9:00AM
9/19/04		PIEDMONT GUN CLUB	50 YD	LT & HV	2:00PM
10/17/04		PIEDMONT GUN CLUB	50 YD	LT & HV	2:00PM

2004 IBS

LEARN TO SHOOT &

WHEN

June 5th & 6th, 2004
8:00AM Start Both Days
Free dinner Saturday !!!!

WHERE

Canastota Conservation Club, Warners Rd., Canastota, NY (Exit 34 off NY State I 90, turn right on Rt. 13 go 1/2 mile turn left on Warners Rd. the range is 1.8 miles on the right.

Motels: Days Inn, North Petersboro St., Canastota, NY—2 miles from the range—Special IBS rates available (315)697-3309

Graziano's Motel, North Petersboro St., Canastota, NY (315)697-8384

WHAT

What will you learn:
Overview of Benchrest
Range preparation
Target scoring
Match protocol & procedures
Load development
Fine tuning equipment
Condition doping
Shooting technigue
Flag placement & reading
IBS shooting disciplines
100&200 yard group shooting with a coach/mentor
Refereeing & rules

EQUIPMENT WILL BE PROVIDED BY THE COACHES.

Cost

All coaches & mentors will have 10+ years experience and/or are proven winners!

Fee: $210.00 per person

Pre-registration is required! You will receive a 1 year membership to IBS and a free T-shirt!

Winner!

A student from this class will walk away with a new Benchrest rifle!!!!!!!

To win you must be present and you must be new to the sport. If you have been shooting benchrest in registered matches for over 3 years you are not eligible to win the rifle.

HOW

How do you sign-up:

Send your name, address and phone number to: Michelle Sutton, PO Box 30, LaFayette, NY 13084

Prior to May 20th, 2004. Along with your check or money order made payable to: "Canastota Conservation Club" in the amount of $210.00.

Questions: call (315)677-9841 or (315)852-6261

E-mail: hartrb@AOL.com

REGISTRATION

Send to Michelle Sutton, PO Box 30, LaFayette, NY 13084

Name:_____

Address:_____

_____

_____

Phone#_____

Registration deadline 5/20/04

T-shirt size: S,M,L,XL,XXL,XXXL
Do you currently belong to IBS?
YES / NO
Are you lefthanded? _____

Include a check or money order made payable to:
"Canastota Conservation Club" in the amount of $210.00

Nearest airport is Hancock International Airport, Syracuse, NY—25 miles from the range.

Benchrest School

WIN IN A WEEKEND!

WHY

If you have ever dreamed of shooting truly little groups Benchrest is for you!

This is the perfect chance for you to learn BENCHREST from the best, in one short weekend! Shorten your learning curve from possible years to days.

Try the sport without having to buy the equipment!! Come see what we are all about.

If you have a benchrest rifle, we encourage you to bring it along!

Benchrest School was originally started in the late 70's in PA. The original classes helped some of today's best shooters get into the sport. Several students from the last two schools have become winners!

The main emphasis of this program will be on group shooting at 100 & 200 yards, however we will introduce you to all of the IBS disciplines:

Score Shooting
600 & 1,000 yard
Rimfire

The techniques you will learn at the school will be beneficial to you no matter what discipline or disciplines you may ultimately decide to shoot.

FRIDAY

Friday, June 4th, 2004 the club will be hosting a welcome party for all early arrivals at 5:30 PM. This will give you a chance to meet some of the staff and coaches and hear a few benchrest stories!!

Saturday Evening

Will be the drawing for the rifle and a steak dinner for all of the students and staff.

One lucky winner will win a new benchrest rifle!

We hope you will walk away from the school with new friends and a true understanding of BENCHREST!

Give it a try you may catch "Benchrest Fever".

Comments from prior students:

"It was the best money I ever spent."

"The entire weekend was a blast."

"I cannot wait to get my new rifle."

"The coaches were great."

"Even if I never shoot benchrest, I learned so much about fine tuning a rifle and improving my shooting, it will help me in my other shooting endeavors."

ORRINGTON

Another score match at Orrington, this one on September 28th.

Hunter class (4 shooters): 1) Bob Beyer 249-14x, 2) Mike Veilleux 248-10x, 3) Skip Plummer 246-10x.

Varmint Hunter class (6 shooters): 1) Peter Wass 250-11x, 2) Parker Hills 249-16x, 3) Skip Plummer 247-8x.

Varmint For Score class (14 shooters): 1) Randy Jarvais 250-18x, 2) Barry Ramsdell 250-16x, 3) Greg Palman 250-14x.

CHARLOTTE

The Charlotte R&P Club hosted a 100-200 yard score match on January 31st. Every time your Editor looked at a national weather map this winter it seemed as if this general area was getting buried under snow, ice or some similar natural disaster. This had to be during an unusually quiet week (weather-wise) since our North Carolina contact tells us that just about all his associates have moved up into the Northeast, to get away from "this ghastly Southern weather."

At 100 yards (15 shooters): 1) Mike Lucas 250-11x, 2) Joel Kendrick 250-11x, 3) Henry Rivers 249-16x. At 200 yards: 1) Henry Rivers 249-9x, 2) Roger Avery 249-4x, 3) Chad Waters 248-6x. Grand agg: 1) Henry Rivers 498-25x, 2) Roger Avery 498-13x, 3) Chad Waters 496-15x.

FAIRFAX

The Fairfax, VA club held its second Winter League 200 yard Score match on December 21st. The weather was described as "bracing" in the Club's match report...usually indicative that it was a little less than the End of the World, but not by much. Ten shooters fired in the VFS class, and the Factory class shooters all decided that it would be a good day to stay at home and trim the tree.

Top ten shooters in VFS: 1) Michael Fisher 249-7x, 2) Steve Stanley 247-5x, 3) Craig Kostyshyn 247-4x.

FAIRFAX

Fairfax, VA held its third Winter League 200 yard score match on January 18th. The weather was cold and rainy (Hey, it could have been snow...)

Fifteen shooters contested the VFS class: 1) Steve Stanley 250-8x, 2) Lynn Shaw 250-2x, 3) Jon Lester 249-10x.

Jamie Crafton won the Factory class with a 236-1x.

Fairfax held their fourth Winter League 200 yard score match on February 15th.

Eighteen shooters contested the VFS class and three shooters tackled the Factory class.

Varmint For Score: 1) Jon Lester 249-4x, 2) Wayne France 248-5x, 3) Steve Stanley 248-3x.

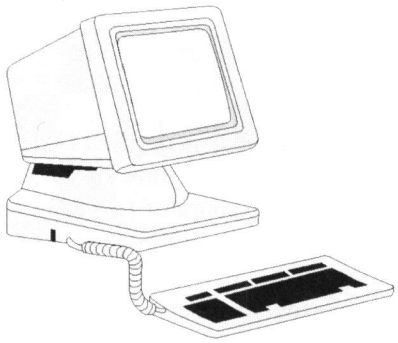
Mark Lester won the Factory class with a 241-2x.

2003 IBS ANNUAL MEETING

Minutes of the Annual Meeting will appear in our next issue.

IBS CHAMPIONSHIP MATCH DATES

July 17-18	200/300 Yard Score Nationals	Union County
July 31 - August 1	200/300 Yard Group Nationals	Canastota
August 16-21	Group Nationals	Kelbly's
September 4-6	1000 Yard Nationals	Ohio 1000 Yard
September 11-12	Score Nationals	Painted Post



IBS OFFICERS

PRESIDENT
Jim Borden
RR#1 Box 250 BB
Springville PA 18844
Phone (570) 965-2505
FAX (570) 965-2328
email: Jim@Bordenrifles.com

VICE PRESIDENT and
MATCH SCHEDULE CHMN.
Bill Krazinski
128 Brown Road
Horseheads, NY 14845
Phone (607) 739-8109
email: wkrazi@aol.com

2nd VICE PRESIDENT
Gary Amatrudo
1149 Foxon Road
North Branford, CT 06471
Phone (203) 484-2032
email: gama53@comcast.net

TREASURER
Bill Gebhardt
101 Allison Street
Lock Haven, PA 17745
Phone (570) 748-6772
email: Bepmachine@aol.com

EXEC. SECRETARY
Eric Tessmer
636 Battle Hill Road
Gouverneur, NY 13642
Phone (315) 287-1890
email: battlehill2@yahoo.com

RECORDING SECRETARY
Joan Borden
RR 1 Box 250 BB
Springville, PA 18844
Phone (570) 965-2366
FAX (570) 965-2328
email: Joan@Bordenrifles.com

PAST PRESIDENT
Robert White
8 New Jersey Avenue
Lake Hopatcong, NJ 07849
Phone (973) 663-5159
email: shootcnr@optonline.net

IBS EDITOR
Dave Brennan
222 McKee Street
Manchester, CT 06040
Phone (860) 645-8776
FAX (860) 645-8215

YORK

A 100 yard Score match at the York range on September 21st.

Hunter class (5 shooters): 1) Ken Livengood 250-19x, 2) Vince Pastorella 250-16x, 3) Terry Reese 249-12x.

Varmint Hunter class (3 shooters): 1) Eddie Harren 249-13x, 2) Sara Harren 248-8x, 3) Donald Merrill 238-2x.

Varmint For Score class (20 shooters): Al Weaver 250-23x, 2) Craig Kostyshyn 250-23x, 3) Tom Resser 250-21x, 4) David Apple 250-20x, 5) Bert Rypkema 250-18x.

ORRINGTON

The Orrington (Maine) Rod & Gun Club hosted a 100 yard score match on August 23rd.

Hunter class (7 shooters): 1) Peter Hills246-11x, 2) Bill Plummer 245-11x, 3) Skip Plummer 245-10x.

Varmint Hunter class (9 shooters): 1) Parker Hills 250-13x, 2) Peter Hills 248-12x, 3) Skip Plummer 247-7x.

Varmint For Score class (11 shooters): 1) Randy Jarvais 250-23x, 2) Rick DiMaro 250-21x, 3) Peter Wass 250-19x.

Factory class (2 shooters): 1) Arthur Patenaude 238-5x, 2) Paul Badger 246-3x. (Editor: That placement seems a bit askew in light of the scores shown. But…ours not to reason why…)

IBS TARGETS

Target	Print	Weight	List Price
IBS 50 Yard Rimfire	Green	7lbs/100, 65lbs/1000	$22.50 per 100
IBS 100 Yard BR (Group)	Black	4lbs/100, 30lbs/1000	$12.70 per 100
IBS 200 Yard BR (Group)	Black	4lbs/100, 30lbs/1000	$12.70 per 100
IBS 300 Yard BR (Group)	Red	7lbs/100, 66lbs/1000	$25.20 per 100
IBS 100 Yard HR (Score)	Black	6lbs/100, 50lbs/1000	$19.00 per 100
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BOONE VALLEY IKES

The Ikes held their final match of '03 on September 20 and 21. As is usual for the Ikes they ran a match format capable of befuddling a stone statue or confusing a Cray main frame computer. To give the reader a key to understanding things, on Saturday they fired the VFS and Hunter classes, with a grand agg for each. On Sunday they contested VFS once again and there was a two gun agg award for the VFS classe of the second day and the Hunter class for the first day. There were other awards, but such things as Tiger Woods' average score in his last four tournaments, Paris Hilton's probable IQ, and the circumference of the earth at the equator when it is High Tide on Coney Island all enter into these calculations. Obviously nothing for Easterners to get into.

Saturday, VFS, 100 yards: 1) Randy Robinett 250-18x, 2) Mike Ricklefs 250-17x, 3) Tim Alhrich 250-11x. VFS, 200 yards: 1) Randy Robinett 246-8x, 2) Mike Ricklefs 242-3x, 3) Tim Alhrich 240-0x. Grand agg: 1) Randy Robinett 496-26x, 2) Mike Ricklefs 492-20x, 3) Tim Alhrich 490-11x.

Saturday, Hunter class, 100 yards: 1) Thomas Gollob 250-16x, 2) David Greene 250-14x, 3) Craig Nagel 249-16x. At 200 yards: 1) Thomas Gollub 245-1x, 2) Art Beek 242-7x, 3) Jim Stummeier 242-3x. Grand agg: 1) Thomas Gollub 495-17x, 2) Stan Ware 490-14x, 3) Art Beek 489-21x.

Sunday, VFS, 100 yards: 1) Roy Oines 250-16x, 2) LaVerne Nelson 250-16x, 3) Thomas Gollub 250-15x. At 200 yards: 1) Roy Oines 250-4x, 2) Mike Ricklefs 247-6x, 3) Thomas Gollub 246-5x. Grand agg: 1) Roy Oines 500-20x, 2) Mike Ricklefs 497-18x, 3) Thomas Gollob 496-20x.

Two Gun: 1) Thomas Gollob 991-37x, 2) David Greene 984-34x, 3) Jim Stummeier 983-26x.

TITUSVILLE

The Titusville R&P club hosted its very first IBS registered match, a VFS affair, contested at 100 yards, on January 17th.

Background information on the new Florida IBS range. It's on the East Coast, and the club is located north of Titusville (due East of Orlando) in Mims, FL, 4.3 miles west of I-95 on State Road 46. The range is one half mile south of Highway 46 on Hatbill Road. Look for the Loughman Lake Lodge large white billboard on the south side of Hwy 46 at Hatbill Road.

For further directions the club has three suggested member contacts: George Pariso (321) 269-2004, Ray Broadwell (321) 267-3876, and Michelle Suggs (321) 383-3290. A 200 yard range is being expanded to provide 10 concrete benches to encourage participation.

Six shooters were on the firing line for the club's historic first match. Top three shooters were: 1) Amauri Lopez 250-19x, 2) George Pariso 250-18x, 3) Anton Heeb 250-13x.

DUNHAM'S BAY

They started the Dunham's Bay Winter League on the day after gunpowder was invented. On the other hand, maybe it only seems that way.

There were only 12 shooters on hand for their January 11th match; a very small turnout by historical Bay Winter League standards. Top three shooters in the 100 yard HV competition: 1) Allie Euber .1854, 2) Lee Euber .2334, 3) Scott Miller .2920.

A scant week later, on January 18th, 10 shooters were on the firing line for the match. Top three shooters: 1) Scott Miller .2448, 20 Lee Euber .2486, 3) Bruce LaChapelle .2586.

Yet another "scant week later", on January 25th the shooter count was back up to 12. Top three shooters for the day: 1) Allie Euber .2140, 2) Bruce LaChapelle .2366, 3) Jim Griffin .2458.

BLACK CREEK

The Black Creek club (in Mechanicsville, VA) hosted their final VFS match for 2003 on August 2nd. Fifteen shooters contested the VFS class and two shooters tested the Factory class waters.

Varmint For Score class, 100 yards: 1) Mark Lester 250-20x, 20 Bill Whitener 250-20x, 30 Bill Riggs 250-18x.

Factory class, 100 yards: 1) Curtis Michael Tripp 238-4x, 2) Maurice Bandy 236-3x.

PIEDMONT
(rimfire)

The Piedmont Gun Club (of Rutherfordton, NC) held their first rimfire match of the year on January 17th. Five shooters contested the light gun class and a similar number shot in the heavy gun class.

Three shooters, light gun: 1) Jeff Ferguson 250-13x, 2) Brian Long 250-11x, 3) Benny Grigg 250-10x.

Top three shooters, heavy gun: 1) Jeff Ferguson 250-16x, 2) Tommy Williams 250-14x, 3) Benny Grigg 250-12x.

Grand agg: 1) Jeff Ferguson 500-29x, 2) Benny Grigg 500-22x, 3) Tommy Williams 499-25x.

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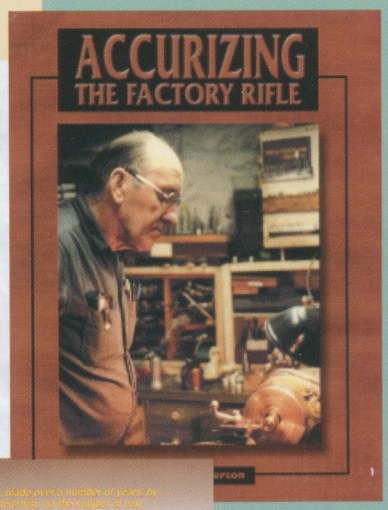

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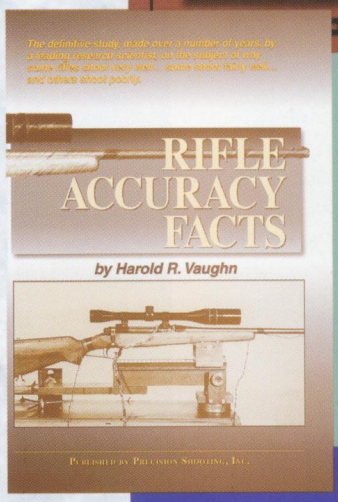

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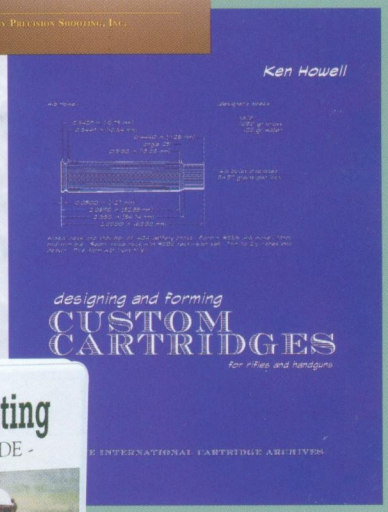

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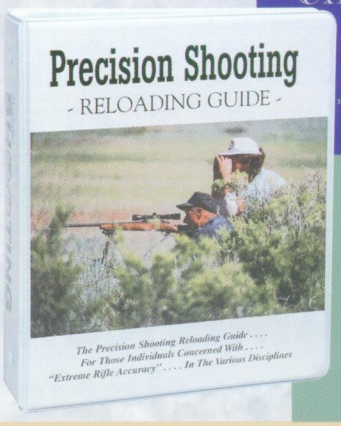

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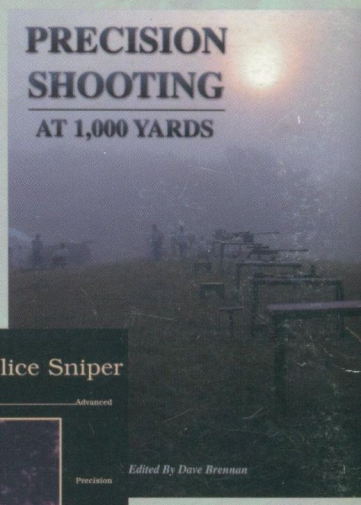

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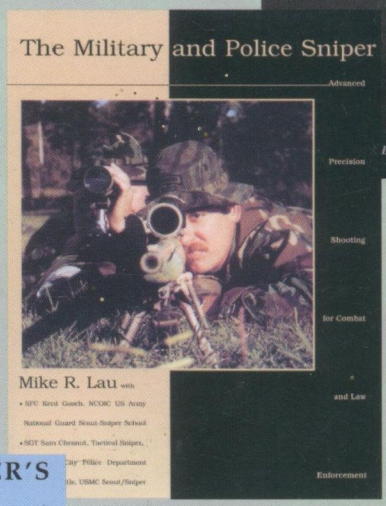

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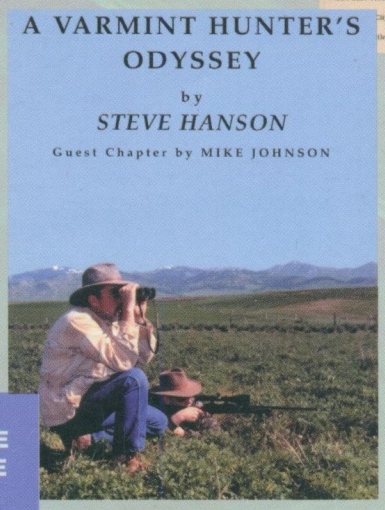

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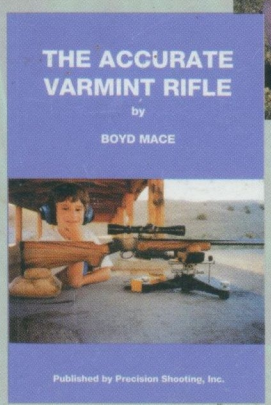

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